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## ORIGINAL ARTICLES.

### EHRLICH'S TEST OF THE URINE IN TYPHOID FEVER.<sup>1</sup>

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IN 1882 Ehrlich announced the discovery of a reaction that he claimed to be characteristic of the urine of typhoid fever. Sulphanilic acid, an amido-derivative of the benzene group, when treated with nascent nitrous acid, forms diazo-benzene-sulphonic acid, which is decomposed with facility, and exhibits the greatest affinity for aromatic and other compounds. The significance of Ehrlich's reaction has been variously estimated, some extolling it as an important, or even pathognomonic, feature of typhoid fever, while others regard the reaction as empirical, unreliable, and unscientific.

Rütimeyer, in 260 cases, found the reaction lacking in health, hysteria, myelitis, specific hepatitis, diabetes, pyelonephritis, jaundice, cholelithiasis, surgical affections, and non-malignant ovarian cystomas. It is occasionally found in esophageal and gastric carcinoma, serous pleurisy, chronic nephritis, tuberculous meningitis, cardiac failure, caries, old abscesses, pyemia, and scarlatina, and still more frequently is it present in croupous pneumonia, pulmonary actinomycosis, carcinoma, sarcoma, and tubercles of the peritoneum.

The author quoted regards the reaction as diagnostic, always absent in febrile catarrhs, and diagnostically second only to the eruption and splenic tumor. If not found in the first and second weeks, the affection is not typhoid, or is of the mildest form. It sustains no relation to the course of the fever, is not influenced by medication, and is found morning and evening. Its intensity bears no relation to the prognosis, and it is apt to occur in relapses.

Bacnacci believes the test bears some relation to sugar and acetone, and states that iodol, soziodol, thymol, and strychnine, will produce the reaction. He asserts that it is usually absent from typhus, variola, pneumonia, and acute enteritis.

Simon found it in typhoid fever and tuberculosis

alone, and in four only of twenty-six cases of typhoid was it absent.

Taylor asserts that the reaction is wanting in acute general tuberculosis, lobular and lobar pneumonia; that it occurs in measles, but seldom in rheumatism, exceptionally in the healthy, in a few cases of acute and chronic pulmonary tuberculosis, and with more than average frequency in the albuminous urine of acute and chronic nephritis.

With the intention of ascertaining, if possible, the precise value of the test, the writer undertook a series of 600 urinalyses, covering a period of ten weeks, and embracing 275 medical and surgical cases. The method chiefly employed was the following: Two solutions are kept in separate bottles. One contains 5 c.c. of hydrochloric acid, with sufficient water to make 1000 c.c., and is saturated with sulphanilic acid. The second bottle contains a  $\frac{1}{2}$  per cent. solution of sodium nitrite. Forty c.c. of sulphanilic acid solution are added to 1 c.c. of the sodium nitrite, and the two thoroughly mixed: Of this mixture 1 c.c. is added to 1 c.c. of urine, and the two shaken forming a yellow solution. Drop by drop 1 c.c. of ammonium hydrate is allowed to trickle down the side of the tube to form a supernatant white layer, between which and the yellow the least shade of garnet is rendered striking by contrast. In a number of cases 1 c.c. of urine was shaken with 6 c.c. of absolute alcohol, filtered, and the filtrate treated as indicated. Only a hue between eosin and garnet was recognized, and yellow and brown rings were disregarded. Distilled water was used in the solutions, and accurate measures maintained in their preparation and use. As the reaction is very delicate, the test tubes were washed in fresh water twice after each test to eliminate contamination. The solutions were kept separate, and fresh reagents used with each analysis, since the sulphanilic and nitrous acids, when combined, decompose rapidly.

In analyzing the cases observed, we noted the clinical course of the disease, the presence or absence of the reaction, its first appearance and duration, the period of illness prior to admission, the fever, the urine (reaction, specific gravity, urea, albumin, casts, and occasionally sugar), especially the decline of the disease, relapses, whether the temperature subsided or the test faded first, the ultimate issue, and in selected cases the absolute-alcohol modification.

<sup>1</sup> Read before the Cook County Hospital Clinical Society, November 15, 1891.

One hundred and thirty cases of *typhoid fever* were analyzed. From two undoubted cases the reaction was absent throughout the disease, even at the fastigium, and the reaction was lacking in six in the period of deservescence. The test bears no relation to the ultimate issue, being equally brilliant in fatal and recovering cases. Only in isolated cases can we observe the first appearance of the reaction, as we rarely see the disease in its incipency, or the patient gives unreliable information through ignorance, delirium, or imperfect understanding of English. The exact relation, therefore, of the reaction to the first stage of the disease must be more or less indeterminable, and, scientifically, the appearance must be dated solely from the admission of the patient. Relapses constitute the only exception. In sixty-three cases in which the exact date of disappearance was noted, the average life of the test was thirteen days, although in cases the reaction lingered until the forty-second and fiftieth days, as determined by repeated daily analyses. These results somewhat exceed the limits set by Simon. The reaction bore no direct ratio to the temperature, although it was most brilliant at the fastigium. The later pyrexia of typhoid fever is probably due to secondary infection, and not to the specific process. This supposition explains the usual persistence of the pyrexia after the disappearance of the reaction. It has been said that Ehrlich's test disappears when the morning temperature becomes normal. Our results do not confirm the assertion. In a few cases both disappeared together. Usually the pyrexia outlives the reaction, and in seventeen cases Ehrlich's test was obtained after all fever had disappeared, even as late as ten days after normal temperature had been established. In some cases the persistence of the reaction was attributable to coincident nephritis or tuberculosis, but in the majority these and other factors, even febrile albuminuria, had disappeared, or could not be demonstrated. Albumin was found present in thirty-five, and absent from ninety-five cases. Relapses occurred in twelve cases, and the reaction reappeared in nine of these. The duration in these varied from two to nineteen days. In three cases of typhoid the absolute alcohol test was negative.

*Enteritis; Febricula.* Of nineteen cases the reaction was well marked or brilliant in six. In two of the six albumin was present. The absolute alcohol test was variable, but the reaction was obtained in two cases by its use. It is important to note that the claim was made for Ehrlich's test that it differentiated between typhoid fever and enteritis and febricula. The inference from the results noted, and the fact that the reaction could not be found in two typhoidal cases, is obvious. The presence or absence of albumin may obscure the interpretation

of the reaction. It is sometimes difficult to differentiate between typhus levissima and acute enteritis, and it is here that the test is most frequently unreliable.

*Malaria.* 1. Case of chronic malaria—inveterate spleen case. There was well-marked reaction; absolute alcohol was not employed. 2. Quotidian—lasted one week; no albumin; brilliant reaction; absent with absolute alcohol. 3. Quotidian—no albumin; brilliant reaction; no absolute alcohol test. 4 and 5. Quotidian—no albumin; reaction absent with and without absolute alcohol.

*Tuberculosis.* In 9 cases of acute and chronic pulmonary tuberculosis the test was brilliantly displayed, and in all but one disappeared with absolute alcohol. In 1 case of intestinal tuberculosis that entered in *extremis* the reaction was very pronounced (autopsy). Dr. F. X. Walls has very kindly given me the result of his investigations upon 22 cases other than typhoid. He found the reaction present in 6 cases of tuberculosis of the lung, pleura, intestine, and peritoneum, and absent from 1 case of pulmonary tuberculosis; also brilliant reaction in 3 cases of miliary tuberculosis (autopsies). In the following lists Dr. Walls's cases will be noted by his name in brackets. In surgical tuberculosis the reaction was well-marked in sacroiliac tuberculosis, 2 cases; brilliant red in tuberculosis vertebrarum, 1 case; brilliant in tuberculous lumbar abscess, 1 case; moderately well developed in the third stage of tuberculous coxitis, 2 cases; absent from tuberculous coxitis, first stage, 1 case; absent from 3 cases of tuberculosis of the knee-joint several weeks after operation, and present in 2 shortly after resection.

*Rheumatism.* Chronic, absent from 1 case. Subacute, 6 cases; present in 3, but absent with absolute alcohol. Acute, 5 cases; present in 1. (Albumin absent from all.) Present in 33 per cent. of all cases.

*Nephritis.* Chronic parenchymatous, absent from 4, present in 2 (from 1 case absent with absolute alcohol). Chronic interstitial, 9 cases; present, though variable, in 6. Acute, 3 cases; brilliant in all, but absent with absolute alcohol. These are aside from cases observed in connection with any other disease. Present in 61 per cent. of all cases.

*Diabetes.* The fermentation test was employed to avoid the fallacy of confusing sugar with those organic acids which reduce Fehling's solution, and, according to Simon, also give Ehrlich's reaction. No albumin in either case. Ehrlich's test very brilliant in both cases, and it persisted in one with the absolute alcohol modification upon a slight rise of temperature, lasting two days, for which no cause could be ascribed.

In the large majority of the following cases either

autopsies or operative measures confirmed the diagnosis.

**Carcinoma.** 1. Of stomach, with secondary deposits in liver; no albumin; brilliant. 2. Of stomach, cardiac orifice; well marked; no albumin. 3. Mammary carcinoma, absent. 4. Mammary carcinoma, fairly well marked.

**Syphilis.** Tertiary; brilliant in 1 case. Specific peritonitis, well exhibited; no albumin; present with absolute alcohol. Absent from 3 cases.

**Cardiac lesions.** Mitral regurgitation, brilliant with and without absolute alcohol; no albumin. Mitral lesions, no albumin; 3 cases; brilliant in 2 and absent from 1 [Walls]. Cardiac degeneration (? fatty), no albumin; brilliant, but variable. Mitral regurgitation, absent. Aortic stenosis and regurgitation with pleuro-pneumonia and acute pericarditis; no albumin; brilliant red.

**Lung.** (Besides tuberculous lesions.) Lobar pneumonia, 2 cases; no albumin; brilliant reaction. Absent from broncho-pneumonia and pleurisy, and from pleurisy with effusion [Walls]. Pleuro-pneumonia, 2 cases, present [Walls]. Pleuro-pneumonia with acute nephritis, brilliant [Walls].

**Plumbism,** 3 cases; present in 1; no albumin; absent in 2. Walls, 1 case, absent.

**Cerebral hemorrhage,** 3 cases; absent in 1; fairly well marked in 1; trace of albumin; brilliant in 1; no albumin.

Present in *acute septicemia*, 3 cases in which albumin and peptones were absent; most brilliant reaction.

**Chronic traumatic dry arthritis** of hip-joint, 2 cases; no albumin; absent in 1; present in the other with and without absolute alcohol test.

The reaction was found once each in the following: Multiple neuritis, variable (no albumin); alcoholic gastritis (no albumin); purpura hemorrhagica (much albumin); peritonsillar abscess (trace of albumin); meningitis (albumin and casts); pyosalpinx (no albumin); abscess of abdominal wall (no albumin).

**Cirrhosis of liver** (no albumin). Hypertrophic, 3 cases; absent in 1, present in 2, with and without absolute alcohol. Atrophic, absent with and present without absolute alcohol. Hypertrophic, absent [Walls]. **Simple jaundice**, present three times (no albumin). **Acute intestinal obstruction**, no albumin, present in 1 case. **Acute intussusception**, both with and without absolute alcohol, brilliant. **Multiple abscess of liver**, brilliant [Walls].

Absent from—9 cases of acute alcoholism; insolation, 2 cases; chronic dysentery, 1; cholelithiasis, 1; gastritis, 1; acute mania, 2; hysteria, 3; simple anemia, 7; vomiting of pregnancy, 1; echinococcus of liver, 1; thrombo-phlebitis, 1; acute suppurative osteomyelitis, 1. Absent from suppurative meningitis, 1 case [Walls].

The two following cases would indicate how invaluable Ehrlich's test would be if it were confined to one affection or to fewer diseases than it is. The test was absent from perityphlitic abscess in which the symptoms closely simulated typhoid, the patient having anorexia, nausea and emesis, frontal headache, cough, *tâche cerebrale*, tympanites—characteristic temperature, tenderness, and pain, with gurgling in the right inguinal region and papular eruption almost lenticular in character. A diagnosis of appendicitis was made upon an induration over the ileo-cecal valve, and the absence of Ehrlich's test had some weight in excluding typhoid. Operation confirmed the diagnosis. Dr. Walls related a case in which a diagnosis of mania was made by a nerve specialist. A brilliant Ehrlich reaction puzzled the house physicians, who placed considerable reliance on the test. Post-mortem examination revealed a typical stage of typhoid, although there were no ante-mortem evidences of typhoid save the sulphanilic acid indication.

The indications from the foregoing analyses are formulated as follows:

1. The reaction is independent of any single disease or any group of diseases.

2. It is frequently found in urine containing albumin, peptone, biliary substances, sugar, aromatics, and possibly leucomaines or ptomaines.

3. We have failed to obtain more constant results with the absolute alcohol than without its use.

4. Ehrlich's test is not always present in typhoid, even at the acme of the disease; it was absent in  $1\frac{1}{2}$  per cent. of our cases. The reaction, therefore, is at best only a presumptive, and not a positive, evidence of typhoid. Its value is on a par with that of gurgling and tenderness in the right inguinal region and inferior to the temperature, roseolæ, and splenic tumor.

5. Together with more reliable signs and symptoms, as temperature, enlarged spleen, etc., it may contribute to a diagnosis of typhoid, and conversely, when absent, in  $98\frac{1}{2}$  cases out of 100, the disease is other than typhoid.

6. It is found in many other diseases, some of which, in certain clinical features, may simulate typhoid—e.g., septicemia, uremia, tuberculosis in its varied aspects, intestinal, peritoneal, miliary, etc., as well as enteritis, malaria, and pneumonia. In differential diagnosis, therefore, when other distinctive symptoms are lacking, the sulphanilic acid test is untrustworthy. It fails when most keenly wanted, and may be absent in otherwise typical typhoid fever.

7. If much reliance is placed in the test, a typhoid relapse may be confounded with complications. We have observed, as complications and early sequelæ yielding the reaction, acute nephritis, lobar pneu-



monia, pulmonary tuberculosis, pleurisy, etc., and would have been at a loss as to the cause if confidence had been reposed in the test.

8. Inasmuch as it occurs typically in many diseases in which the causes and elaborated products differ, and since the various compounds with which the diazo-benzene-sulphonic acid unites are as yet unknown, the reaction cannot commend itself to the scientific chemist, however it may be regarded clinically.

#### FORMS OF PSEUDO-TABES DUE TO LEAD, ALCOHOL, DIPHThERIA, ETC.<sup>1</sup>

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LOCOMOTOR ataxia is one of the best-known diseases. Its classic array of symptoms, so familiar to all, occurs, as a rule, with a precision of type and regularity of sequence that admit of but few errors in diagnosis. Its history and course have been written so frequently and so well that little remains to be said; while, unfortunately, its prognosis admits of but such a frank statement of despair, that it has long been described as one of the most inveterate and progressive of diseases. Locomotor ataxia, however, like many other diseases, has its counterfeits. All is not necessarily lost, as was once taught, to all men who stagger in the dark, whose knee-jerks are abolished, and who have pain and numbness in the legs. These counterfeits, doubtless, are in the minority to the true ataxics, but that they are more prevalent than was formerly supposed is at least probable; and that it is highly important for the welfare of the patient and the credit of the physician to differentiate them, is apparent. This paper will discuss especially the etiology and diagnosis of these forms of pseudo-tabes, and will be based largely upon personal observation.

In 1884 Dejerine<sup>2</sup> described a disease which he called *neuro-tabes peripherique*, and gave the clinical histories and autopsies of two patients whose disease he had diagnosticated in life as locomotor ataxia. Both of these patients presented incoördination, anesthesia, abolition of knee-jerks, slight atrophy, and paresis, without eye or bladder symptoms. They had used alcohol to excess. The autopsies revealed pronounced inflammation of the cutaneous nerve-endings, slighter changes in the intramuscular nerves, and no change whatever in the spinal cord, nerve-roots, or ganglia. Dejerine had not found any analogous cases reported at that time in medical literature, and deserves credit for first

demonstrating the striking resemblance of these obscure cases to locomotor ataxia. At about the same time, however, Dreschfeld<sup>3</sup> described a type of alcoholic ataxia characterized by incoördination in the gait, absence of knee-jerks, with lancinating pains, but without atrophy or paralysis. His clinical picture was strikingly like that of Dejerine, but was not supplemented by the same careful post-mortem findings. In the same year Krücker wrote a paper on "Pseudo-Tabes in Alcoholics."<sup>4</sup> But earlier than all of these, Samuel Wilks, in his lectures in 1878, described the drunkard's paraplegia, and said that in some cases it closely resembled locomotor ataxia. Wilks believed that the lesion was in the spinal cord, but he wrote before multiple neuritis was much more than dreamed of.

Still earlier (1867) Leudet<sup>5</sup> wrote an elaborate paper on chronic alcoholism in which he described the same combination of symptoms—anesthesia, hyperesthesia, disordered gait, and paresis—and in fact came near to describing what we recognize to-day as polyneuritis. In recent years the literature of multiple neuritis has grown to a vast extent. It has become, therefore, more and more necessary to differentiate the various types of the disease and to recognize its many causes. With this motive, Leyden in 1888 wrote a monograph in which he distinguished five forms, one of which he named the sensory form, under which heading he grouped the acute ataxics, and borrowed for them, from the earlier paper of Dejerine, the title of *neuro-tabes peripherica*.

It may be said in general terms that all of these cases of pseudo-tabes or acute ataxia are instances of a multiple neuritis of this sensory form of Leyden, and that most of them have probably a morbid anatomy similar to or identical with that demonstrated by Dejerine, *i. e.*, an involvement especially of the peripheral distribution of the cutaneous nerves. Hence the most common symptoms in these cases are disorders of sensation, especially anesthesia and paresthesia, with ataxia and abolition of the knee-jerk. To these must be added symptoms, in varying intensity, of involvement of the motor nerves, never perhaps quite absent, but often requiring careful and expert examination for their detection. From these ataxic cases all degrees of severity occur up to well-recognized cases of multiple neuritis, with general involvement of the sensory and motor nerves. The eye and bladder are seldom involved in these ataxic cases, but important exceptions occur. Of the great viscera, the heart and kidneys are most likely to suffer.

<sup>1</sup> Brain, July, 1884, p. 201.

<sup>2</sup> Deutsche med. Zeitung, 1884, No. 72, p. 229.

<sup>3</sup> Read before the College of Physicians of Philadelphia, March 2, 1892.

<sup>4</sup> Arch. de Physiologie Norm. et Patholog., 3e. sér., iii, 1884.

<sup>5</sup> "Étude clinique de la forme hyperesthésique de l'Alcoolisme chronique, etc." Arch. Gén. de Méd., 1867, vol. i, pp. 5-35.



In some cases it is quite impossible at once to arrive at a correct diagnosis. In doubtful cases the history alone may determine the diagnosis; and this history, with certain attendant phenomena—as, for instance, the blue line on the gums in lead cases, tachycardia in alcoholic cases, and paralysis of accommodation in post-diphtheritic cases—should always be most carefully investigated. In my observation by far the most frequent causes are alcohol, lead, and diphtheria. Others report arsenic, and such infectious processes as variola, typhoid fever, tuberculosis, and syphilis; also wasting diseases, as diarrhea and dysentery. Bartholow has reported cases of paralysis following bowel-disorder, which were probably examples of neuritis. Syphilis is now believed by many to be capable of causing neuritis; indeed, it may be a question whether some cases of so-called syphilitic locomotor ataxia, cured by mercury and iodides, have not been cases of peripheral neuritis. Dejerine, in another paper, described the onset of a fatal multiple neuritis in a morphine-taker; and I have myself seen amblyopia accompanied by anesthesia of the feet and legs in an excessive smoker.

The eye-symptoms are the most reliable for purposes of differentiation. None of the forms of multiple neuritis, except the post-diphtheritic kind, present, as a rule, any affection of the internal or external ocular muscles. I have looked for them always in vain in alcoholic and lead cases. In diphtheritic paralysis, however, the ciliary muscle is often paralyzed, while the light-reflex remains—the very opposite to the Argyll-Robertson pupil seen in locomotor ataxia. At the same time there is likely to be paralysis of some of the external ocular muscles, causing strabismus; almost always associated with paralysis of the velum palati. In lead-poisoning optic neuritis is sometimes observed.

The functions of the bladder and sexual apparatus are not often affected in any form of polyneuritis, especially the ataxic form. The only case in which I have seen impairment of the bladder was in a woman with grave alcoholic paralysis, with mental symptoms, and weak, rapid heart. The involuntary passage of urine in her case was the result of her mental condition. In chronic inebriates the sexual appetite rather than the sexual power is impaired. On the other hand, locomotor ataxia, as is well known, is very likely to exhibit soon in the case impairment of sexual power and of the expulsive power of the bladder.

It is most probable that ataxia or incoördination, whether in true *tabes dorsalis* or in pseudo-*tabes*, is caused by the impairment of sensation. However caused, it is very similar in the two conditions. We have at present in the Philadelphia Hospital a man suffering with a severe grade of multiple

neuritis, with wasting of the muscles of the extremities. He has an alcoholic history, although, strange to say, his disease developed rapidly after a sunstroke. This man has diminished and sluggish, not abolished, knee-jerks. His gait is typically ataxic, with elevation and flapping of the feet. He cannot stand an instant with his eyes closed; in fact, he has such a condition of *astasia* that he is sometimes compelled to keep walking to avoid falling. His eyes are normal. It has been claimed by some that the element of muscular weakness, in cases of neuritis, admits of a distinction being made between the ataxia of the two conditions, as in multiple neuritis the ataxic movement is evidently more feeble than in *tabes dorsalis*, and the foot is lifted higher because of the paralysis of the extensors. But in the cases of pseudo-*tabes*, this muscular weakness is often not conspicuous, and hence this distinction is not possible. I have recently put side by side a case of acute lead-poisoning and a typical case of locomotor ataxia for the purpose of comparing the ataxic movements in the arms, which are very marked in both cases.

The cases are as follows:

Male, aged thirty-eight years. After four months' exposure in a lead factory he began to have colic, constipation, vertigo, and headache. He then had several convulsions, and passed into a state of lead encephalopathy, from which he is now recovering. He has no paralysis of the extensors, but the shoulder muscles and biceps are paretic. He has some patches of anesthesia on the arms, hands, and legs. His walk is ataxic, and the movements of his arms markedly so. He has the blue line on the gums, no albumin or casts in the urine, and the margins of the optic discs are slightly clouded.

This man's case has been a grave one, and admits of no confusion. The ataxic movements of his arms, however, are almost identical with those of the second case, as follows:

Male, aged thirty-eight years. He may be called a case of rapid acute locomotor ataxia. The disease began with numbness and pricking sensations. The patient was soon suffering with fulgurant pains; then ataxia, with inability to walk in the dark. The arms are involved as well as the legs. The knee-jerks are abolished. For a year he has had nocturnal incontinence of urine, and when the bowels are overloaded, some paresis of the sphincter ani. The pupils are unequal and do not respond to light. There are irregular discs, with contracted arteries. There is apparently some latent iritis, and there is a posterior synechia. The man has had syphilis.

The ataxic movements in these two men are so similar as to attract attention, the only difference being that the man with lead-poisoning takes longer to perform a given action than the tabetic, probably because of the element of muscular atrophy in his case.

Motor symptoms, other than ataxia, are not conspicuous in cases simulating tabes; in fact it is the absence of marked paralysis in these cases of multiple neuritis that more than anything causes them to resemble cases of true locomotor ataxia. This was so in Dejerine's cases already referred to, in which the autopsies showed the principal changes to be in the cutaneous nerves. These are the cases which Leyden classes as his sensory forms, and calls acute ataxics. They are more often alcoholic and diphtheritic cases than any others. It is most probable, however, that none of these cases are entirely exempt from paresis in some muscles. Careful examination usually reveals some loss in muscular masses, and electrical tests sometimes solve a doubt. Paralysis may be slight, especially in the large muscles of the limbs, and may not be conspicuous when the patient is lying down, but when standing up or when executing fine movements with the fingers and toes the motor impairment is more marked.

I recall the case of a man in middle life who had diphtheritic ataxia, with anesthesia, but who had so little paralysis that he was able to be about without attracting attention. Such cases in middle life are especially likely to be diagnosticated as cases of locomotor ataxia.

In diphtheritic cases, acute sensory symptoms, such as pain on pressure over nerve-trunks and on handling the limbs, are not nearly so marked as in alcoholic cases. In all cases, however, presenting true ataxia from whatever cause, I believe a diminution or alteration of sensory function can be demonstrated by careful examination.

Rapidity of evolution is not an absolutely sure sign that the disease is multiple neuritis, because true tabes may evolve rapidly. I have under observation a case of apparently true tabes in a shipcarpenter which began and continued as follows:

Two years since, while crossing the equator, being much overheated, he took a shower-bath, by having buckets of water thrown over him. He was in good health at the time. Three hours later he began to have tingling sensations in the extremities, which he says were at first confined to one side. In a few days he was paralyzed. Later, the other side was affected, but never so badly as the right side. At present he presents a very ataxic gait, pains in the legs and back, and abolition of the knee-jerks. One pupil is twice as large as the other, the dilated iris being immobile, and the other showing the Argyll-Robertson phenomenon. He cannot stand with his eyes shut. His control of his bladder and rectum is impaired, and one ankle is enlarged somewhat like a tabetic joint. The muscular nutrition in the arms and legs is not bad, and his grip in each hand registers 80°. The man has had destructive nose-disease, but denies syphilis.

This patient's history suggests neuritis, but his present state is so exactly that of locomotor ataxia,

with eye and bladder symptoms, that the conclusion is almost forced that such is the correct diagnosis.

The case of the patient from whose cord and nerves I present sections, has interest because the diagnosis of locomotor ataxia was actually made by a very expert clinician.

I. L., aged fifty-eight years, was a painter by trade. He had been exposed to lead for thirty years. He had a very clear history of many attacks of colic, constant constipation, and several attacks of wrist-drop. He had also the blue line on the gums, and that frequent result of chronic plumbism, a contracted kidney, as shown by casts, albumin, and the specific gravity of his urine. No lead could be detected in his urine. He had been an excessive drinker, but had never had syphilis. The diagnosis with which he was sent to me had been made largely upon the ataxic gait, swaying with closed eyes, abolition of the patellar reflexes and numbness, tingling and retarded sensation in the soles. I found his real condition as follows: In addition to the foregoing very evident symptoms, he had well-marked paresis and atrophy of both the extensors and flexors of the forearms and hands, as well as the biceps and deltoid muscles. On voluntary motion there was tremor rather than ataxia of the arms and hands. There were paresthesia and areas of anesthesia on the hands, legs, and soles of the feet. The legs and arms were slightly contracted. The external and internal eye-muscles were normal. Sexual power was normal, and the control of the bladder was perfect. The gait was ataxic, but flapping of the feet was not marked. The hands and feet were slightly edematous. There were partial reaction of degeneration and abolition of faradic contractility in all of the paretic muscles. Optic atrophy was noted by Dr. Gould—no doubt the result of optic neuritis due to lead. The diagnosis was chronic lead-poisoning, with multiple neuritis and contracted kidneys. The patient died in a few weeks in uremic coma. The sections show quite extensive inflammation, or degeneration due to inflammation, in the several nerve-trunks examined, with involvement, rather diffused, of some areas of the cord, notably in the lumbar region. The systemic changes of locomotor ataxia are not present.

In studying this case, in which it seems probable that the cord was involved later than the nerves, I have been reminded of the suggestion made by Leyden, that true tabes dorsalis may be secondary to peripheral neuritis of the sensory or cutaneous form. This is still further demonstrated in a recent study by Pal,<sup>1</sup> who, in a series of cases of multiple neuritis due to alcohol, arsenic, typhoid infection, etc., found apparently secondary changes in the posterior columns and other parts of the cord. It is also well to recall that locomotor ataxia is sometimes complicated by an attack of acute multiple neuritis.

<sup>1</sup> Wiener klin. Wochenschr., 1891. Abstracted in *Journal of Nervous and Mental Diseases*, March, 1892, p. 225.

**VIBURNUM PRUNIFOLIUM: ITS PHYSIOLOGIC ACTION AND THERAPEUTIC APPLICATIONS.**

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To those physicians who, like myself, are engaged in rural practice, anything throwing light on indigenous remedies is always welcome, not only because the remedy is easily procured, but because to the lot of us all falls a large share of patients who, from inability or unwillingness, fail to pay their bills. A native remedy, therefore, that enables us to lessen our drug-account and set at defiance the manufacturing pharmacist will always prove a desideratum. Such a remedy is found in the viburnum prunifolium, or black haw, and after fully testing its merits I have learned to rely upon it as deserving of much confidence when judiciously prescribed.

The viburnum is not a new remedy, but one the virtues of which I believe to be but poorly understood. It was first described by Dr. Phares, of Mississippi, in 1866, as a "nervine, anti-spasmodic, tonic, astringent, and diuretic," but he especially recommended it as a remedy in threatened abortion. His article, though eliciting much temporary interest, was soon forgotten by the mass of the profession until the remedy was rescued from oblivion by the distinguished Dr. Jenks, of Detroit, who, in 1876, read an article before the American Society of Gynecology endorsing the claims made for haw by Dr. Phares, and extolling its virtues in abortion, the nervous diseases of pregnancy, and declaring it to be "serviceable in all uterine disorders characterized by loss of blood." This last statement of Dr. Jenks is fallacious, since it is apparent that as the causes of uterine hemorrhage are various, no one remedy, unless it be astringent—and this can only be claimed for haw in a slight degree—could prove useful in all cases.

Since the publication of Dr. Jenks's article the remedy has been used by a number of physicians, and isolated reports have at various times appeared in current medical literature setting forth the value of haw in threatened abortion, menorrhagia, metrorrhagia, dysmenorrhea, the vomiting of pregnancy, stomatitis materna, etc. The remedy has been described as stimulant and sedative, mildly oxytocic and anodyne, and indeed the *United States Dispensatory*, edition of 1886, declares that while haw has been claimed to possess medicinal attributes, "its virtues must be considered apocryphal." From this mass of conflicting testimony it is impossible to determine the true value of the drug, and therefore the writer has instituted an experimental research as to its effect upon cold-blooded and warm-blooded

animals,<sup>1</sup> from which are deduced the following conclusions:

First. Black haw, so far as these experiments indicate, exerts no influence on consciousness or sensibility.

Second. The most constant and marked effect of viburnum is upon the centers of motion. After its administration there follow paresis, paralysis of voluntary motion, and finally complete loss of all reflex power, the extent of this loss being governed by the dose administered. A first effect is paresis, which makes its appearance not suddenly, but as a gradually growing weakness; then there follows marked incoördination of muscular movement, and whatever motion is attempted is of a jerky, spasmodic character; then, the effect being pushed, there occurs, almost suddenly, complete loss of voluntary movement; and later, in fatal cases of poisoning from this drug, all reflex power is lost some time before cessation of the heart's action or of the respiration. In cold-blooded animals the pupils contract under the influence of haw, but in warm-blooded animals no effect on the pupils was noticeable. Muscular irritability is lost after lethal doses of haw, but the ability of the nerves to transmit the electric current is lost before muscular contractility.

Third. The effect of viburnum on motion, as previously described, must be due to the action of the remedy on the motor centers of the spinal cord. The fact that incoördinate movement precedes complete loss of motor power, argues that haw has some selective action on the posterior columns of the cord. The effect of haw upon the cord seems to be to hold in abeyance rather than to destroy its motor functions, since after all motor power is lost following its administration, electricity applied to the cord causes motion in the parts below, and applied directly to the nerve-trunks causes more active movement. A peculiar, spasmodic, chewing motion of the jaws was observed in some of the experiments on rabbits, and would indicate a specific action, difficult of explanation, on the seventh pair of nerves. The functions of the cerebrum, as manifested in the persistence of consciousness and the sense of pain, show that viburnum exerts at least no primary action upon the brain.

Fourth. A constant and first effect of haw is to paralyze the vasomotor nerves, with consequent dilatation of the bloodvessels; the capillaries of the rabbit's ears become distended with blood. At the same time, in warm-blooded animals, the action of the heart becomes very rapid and feeble, and, later on, the vessels of the periphery become so small that even large vessels in the ear of the rabbit are

<sup>1</sup> These experiments are given in detail in the Transactions of the North Carolina Medical Society, 1888.



almost unapparent to the eye. Coincidentally the surface-temperature falls very low. The diminution in the size of the vessels seems attributable to diminished volume of the circulating fluid, and not to contraction of the muscular walls of the vessels through increased vigor.

In cold-blooded animals the action of haw on the heart differs somewhat from its effect upon warm-blooded animals. Instead of growing more rapid, the heart becomes gradually slower and slower, but the similarity of action is marked in the disturbed rhythm and constantly increased feebleness of the heart's pulsations. In one of the experiments the normal action of the rabbit's heart raised the column of mercury in the manometer connected with the carotid artery fully five inches, but when the animal was fully under the influence of the medicament the pressure fell so low as to exert no influence on the mercury: while a comparison of the blood-pressure taken with a mercurial kymograph from the carotid of rabbits before the administration of the haw and after the animals come fully under its influence, show conclusively the fall of the blood-pressure under the action of the drug. In both warm-blooded and cold-blooded animals, after lethal doses of haw, paralysis of the heart precedes cessation of the respiration. Post-mortem investigation shows the right ventricle and vena cavæ distended with soft coagula, and the left ventricle also contains some soft clots; the lungs are congested, and all the post-mortem indications are that the heart is arrested in diastole from paralysis of its vasomotor ganglia.

From the foregoing summary it seems evident that viburnum paralyzes both the centers of voluntary motion and the reflex functions of the spinal cord.

From this knowledge of the physiologic action of haw we naturally conclude it is destined to become an approved remedy in all diseases characterized by increased excitability of the motor centers. An especial recommendation for viburnum in these cases is that it paralyzes the motor centers without impairing sensation or consciousness.

In the convulsions of hysteria, whether involuntary or artificially induced, in hystero-epilepsy, in *petit mal*, in the true epileptic seizure, and in various localized spasmodic troubles, we may expect much good from haw in the prevention of recurring paroxysms.

In cases of paralysis agitans the writer has witnessed marked diminution in the tremor, and has added much to the comfort of the patient by the prolonged use of moderate doses of this remedy. In idiopathic dysmenorrhea (?)—by which term I prefer to designate all painful menstruation unaccompanied by organic lesion or displacement—haw is

exceedingly useful. This form of dysmenorrhea is most frequent in subjects of the hysterical temperament, or in women in whom, either by reason of faulty development or the neglect of hygienic laws, the nervous system has become predominant. Idiopathic dysmenorrhea is characterized not only by the absence of organic defect, but also by acuteness of pain as well as by irregularity, the suffering being much worse during some periods than in others; the condition is by some teachers designated ovarian, by others spasmodic dysmenorrhea. In this form of painful menstruation the viburnum will prove of the greatest utility if it be administered for a few days prior to and during the time of the menstrual epoch; and even in painful menstruation due to obstruction, while we could not expect this agent to prove curative, it will certainly lessen the violence and frequency of the colicky, bearing-down pains, and is open to none of the objections that apply to the use of opiates.

In this connection it may not be out of place to refer to the statement of Dr. Edward Jenks, who declares that haw is only useful in those cases of dysmenorrhea associated with menorrhagia. This statement, in the writer's opinion, is not absolutely correct, but there certainly are cases of dysmenorrhea associated with menorrhagia in which ovarian influences play a potent part as etiologic factors in the production both of the increased and painful flow that are much benefited by the viburnum.

That there is a form of dysmenorrhea produced by ovarian influences is beyond question. Ovarian irritation is common at the age of puberty; is frequent in sterile marriages; is often caused by sexual excesses, and is common among prostitutes or when great disparity exists between the ages of husband and wife; and, lastly, like the final flickerings of the candle burned into the socket, ovarian irritation is one of the most constant phenomena of the menopause, and whenever found associated with menorrhagia we can safely regard it as one of the causes of the increased flow, and may confidently expect to do much for its relief by the administration of the viburnum. On the other hand, in menorrhagia due to congestion of the portal circulation, subinvolution of the uterus, metritis, lacerations and erosions of the cervix, and when fibroid tumors exist, haw not only exerts no beneficial effect, but may prove positively injurious.

In the prevention of abortion haw has proved itself preëminently useful, and with a clear knowledge of its physiologic action it stands upon a firm basis before the profession as the very best agent known for the purpose named. Labor, whether at full term or occurring prematurely, is nothing more or less than a reflex action, and haw, from its power to lower the irritability of the motor centers through

all grades of debility, from the slightest paresis to the most profound paralysis, commends itself above all others as the remedy in threatened abortion.

Of course, if the ovum is detached from its uterine connections, in part or entirely, we could not expect, nor would we desire, its retention, but in cases the result of emotional causes, or of other causes acting exclusively through a nervous agency, when there are simple expulsive pains without much hemorrhage, even though there may have already resulted considerable dilatation of the os uteri, the viburnum will almost surely prevent abortion if it be faithfully pushed. Viburnum has proved of the greatest use in the writer's hands in cases in which women have contracted the habit of aborting. In these cases the fluid extract in dram doses, or preferably a decoction prepared from the fresh bark of the root, in half-ounce doses, should be administered three or four times daily from the time pregnancy is suspected till several weeks have elapsed after the usual period of aborting. One word of caution is necessary as to the use of haw in threatened abortion. In cases characterized by much hemorrhage, the vitality of the embryo is probably lost, and it is hardly worth one's while to try to save it, and in these cases haw may prove a dangerous remedy. The bleeding is caused by a detachment of the placenta; the only means of checking the hemorrhage is the closing of the torn uterine sinuses by the contraction of the uterus, and haw by its paralyzant action may effectually prevent this contraction, and thus add greatly to the danger of death from hemorrhage. Or again, haw, by controlling the expulsive efforts of the womb, may cause the retention of a decomposing mass, and thus favor the production of septicemia. A large number of pregnant women suffer with what the writer is in the habit of styling irritable uterus. At any time during pregnancy, but especially during the later months, the womb may become fretful under its burden, and then occur frequent slight contractions, which annoy the woman and keep up tenderness and a sore feeling in the lower part of the abdomen. These cases are speedily relieved by moderate doses of viburnum. In the false pains that often harass a woman for days before the onset of labor, and in the after-pains of confinement, haw will often relieve.

The preparations of haw that I have used are the solid extract, in doses of from five to ten grains; the fluid extract, in doses varying from a dram to half an ounce, or, what is far preferable, a decoction prepared as follows, viz.: Four ounces of the bark of the fresh root are added to three pints of cold water in a porcelain vessel, and the whole boiled gently till only a quart of fluid remains. The fluid portion is now strained away, and the juices remaining in the bark are extracted under pressure and

added to the decoction. Of this the dose is from one-half to one ounce, repeated in accordance with the demands of the case and the resulting effect.

#### A PRACTICAL TEST FOR AIR-IMPURITY.<sup>1</sup>

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HYGIENISTS and chemists tell us that pure atmospheric air contains about four parts or volumes of carbonic oxide ( $\text{CO}_2$ ) in every ten thousand parts of air. When symptoms of discomfort or disease result from breathing the air of inhabited, poorly ventilated rooms, such symptoms are due principally to the presence of impurities given off in respiration. It has been authoritatively stated, that, as such respiratory impurities are given off to the air they are mixed with a fixed quantity of carbonic oxide; in other words, with each expiration of the individual there is exhaled carbonic oxide, respiratory impurities, mostly organic in character, vapor of water, and other materials.

Although doubted by some observers, the view is still held by most sanitarians, that by estimating the amount of carbonic oxide in habitable rooms we may obtain an approximate measure of respiratory impurities present. Dr. de Chaumont tells us that when the air has added to it respiratory impurities in amount represented by two parts of carbonic oxide in the ten thousand, in addition to the four parts of carbonic oxide existing naturally in air, such air does not differ materially from pure outside air in its effect upon health. When, however, the proportion of carbonic oxide, and its accompanying impurities, exceed six parts or volumes in ten thousand parts of air in the room, the health of the individual suffers. This, then, is the permissible limit of respiratory impurities.

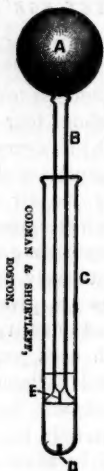
If we pass a stream of carbonic oxide gas through lime-water, a precipitation of carbonate of lime takes place, causing the lime-water to become turbid. This fact is applied by Dr. Angus Smith in the "household" and the "minimetric" methods of air-testing described by him. Recently, Professor Wolpert, a noted German meteorologist, has devised an instrument that he calls an "air-tester."

Dr. S. W. Abbott describes this instrument in the *Boston Medical and Surgical Journal*.<sup>2</sup> It consists of a simple rubber bulb (A) of a capacity of twenty-eight cubic centimeters, a glass outlet-tube (B) with a constriction near its extremity (E). A glass test-tube twelve centimeters in length (C) and two millimeters in diameter, has a horizontal mark near the bottom, indicating the point to which it must be

<sup>1</sup> Read before the Philadelphia Medico-Legal Society, January 26, 1892.

<sup>2</sup> See Rohé. Text-book of Hygiene. Second Edition.

filled with perfectly clear saturated lime-water to contain three cubic centimeters. The bottom of the test-tube is whitened and has a black mark stamped upon it (D).



In order to use Wolpert's "air-tester," pour clear saturated lime-water into the test-tube until it reaches the horizontal mark. The glass outlet-tube attached to the rubber bulb is inserted nearly to the bottom of the test-tube and below the surface of the lime-water. The rubber bulb is compressed firmly and twenty-eight cubic centimeters of air are forced through the lime-water. Without relaxing the compression of the rubber bulb, withdraw the outlet-tube from the lime-water and then allow the bulb to refill with the air of the room. Again insert the outlet-tube in the lime-water and compress the bulb, as before. Continue forcing air through the lime-water in this manner until the carbonic oxide present in the air has rendered the lime-water so turbid that when we look downward through the lime-water, we can no longer distinguish the black mark (D) on the bottom of the test-tube. If this obscuration is effected by one bulbful of air (twenty-eight cubic centimeters) carbonic oxide is present in the proportion of 200 parts to 10,000 parts of air. If it requires two bulbfuls of air, carbonic oxide is present in the proportion of 100 parts. If thirty-three or thirty-four bulbfuls of air are required to render the lime-water turbid, obscuring the black mark, carbonic oxide is present only to the permissible limit of six parts in ten thousand.

As this method of air examination appeared so practical and required so few appliances, it seemed worthy of attention. On application at the stores of our city, however, the instrument could not be obtained. It was found impossible, without considerable cost, to obtain a rubber bulb of exactly

twenty-eight cubic centimeters capacity. Furthermore, after such a bulb was made, even though the utmost care was used in compressing it, all the air which it contained was not expelled, so that a compression of the bulb did not cause quite twenty-eight cubic centimeters of air to pass through the lime-water. Another objection was that as the bulb had but one opening for the admission of air, that through the outlet-tube, lime-water would be sucked up into the outlet-tube and bulb if the compression of the bulb was relaxed in the slightest degree before the outlet-tube was withdrawn from the lime-water. When lime-water gained entrance to the rubber bulb in this manner, part of it remained in the bulb, thus lessening the quantity of lime-water operated upon, and part of the lime-water sucked up returned to the test-tube, carrying with it powdered rubber, which caused a turbidity in excess of that produced by the carbonic oxide. The required diameter of the test-tube, two millimeters, was so small as to constitute a decided objection.

For all these reasons I have been led to propose a modification of the "air-tester" of Professor Wolpert, and of the manner of using the "air-tester." It is as follows:

1. Select a test-tube of *any* size and make a horizontal mark upon its side at *any* point.
2. Take a rubber bulb having one valve and to the *unvalved* extremity bind a glass tube, long enough to reach to the bottom of the test-tube selected, and our apparatus is complete. For the rubber bulb we may use the hand bulb of a spray-producing apparatus.

We must now "standardize" our apparatus. To do this we carry the apparatus to a place the air of which we know to be pure, or the air of which contains four parts of carbonic oxide in ten thousand parts of air. Fill the test-tube with clear, saturated lime-water, up to the horizontal mark made upon the side of the tube. Insert the outlet-tube, attached to the rubber bulb, below the surface of the lime-water in the test-tube, and compress the bulb; without withdrawing the outlet-tube from the lime-water, allow the bulb to refill slowly, through the valved opening, with the air of the room. Continue compressing the bulb and thus forcing air through the lime-water, until an ink line, or mark, made upon a white card can no longer be distinguished when the card is held against the bottom of the test-tube and we look downward through the turbid lime-water. Multiply, now, the number of times we have compressed the rubber bulb by four and write the product plainly upon the apparatus. Our instrument is now "standardized" and is ready for use. To make use of it, we put it in the hands of the nurse or attendant, telling her to test the air of the sick-room at stated intervals. She is to divide



the number of bulbfuls of air of the room necessary to render the lime-water turbid (obscure an ink line on a white surface) into the number written upon the apparatus, and when the quotient exceeds six the quantity of respiratory impurities, as measured by carbonic oxide in the air of the room, has passed the permissible limit, and the air in the room must be changed more rapidly.

When we standardize our instrument we write the product of the number of bulbfuls of air multiplied by four upon our apparatus to avoid giving the nurse the necessity for the following calculation:

The quantity of air of the sick-room required to produce turbidity in lime-water is to the quantity (or number of bulbfuls) of pure air required to produce turbidity in lime-water, as the quantity of carbonic oxide present in pure air (four parts) is to  $x$ , or the quantity of carbonic oxide in the air of the sick-room. Now, if on standardizing our apparatus it required twenty bulbfuls of pure air to cause turbidity of the lime-water, and in the sick-room ten bulbfuls of air caused the same amount of turbidity in lime-water, then—

Air of room.	Pure air.	Parts CO <sub>2</sub> .	
10	: 20	:: 4	: $x$ = 8 parts CO <sub>2</sub> in 10,000.

Then, if the product of the number of bulbfuls of pure air multiplied by four, be written upon the apparatus, the only calculation the nurse will be called upon to perform is that of dividing the number of times she compresses the bulb into the number written upon the apparatus.

The instrument may be standardized in other than pure air, provided that by some reliable test, as Pettenkofer's, we determine exactly how many parts of carbonic oxide are present. If our apparatus be standardized with air at a temperature of 68° to 70° F., it will render unnecessary any correction for differences in temperature, as air in rooms usually has this temperature.

As an example of the usefulness of this little instrument the following is cited:

An instrument marked 80 was given to a nurse attending a case of typhoid fever, and upon the clinical chart she notes:

2 P.M. Ten compressions, or 8 parts CO<sub>2</sub> [ $80 \div 10 = 8$  CO<sub>2</sub>]. More fresh air admitted.

4 P.M. Fifteen compressions, or 5+ parts CO<sub>2</sub>.

6 P.M. Twelve compressions, or 6.7 parts CO<sub>2</sub>. More fresh air admitted to the room.

The time required for each examination was but from three to five minutes. After each examination the test-tube should be washed with vinegar to remove any carbonate of lime remaining upon the bottom or sides of the tube, and then well rinsed with water.

In closing this subject, I would give warning not

to trust to the sense of smell for judging the state of purity of air in a room. Many poisonous exhalations have no smell, and, also, as the sense of smell is soon blunted, nurses are often unaware of the extremely unhealthy condition of the air of a room in which they remain for many hours. On first entering a room we may find the air quite offensive, yet before we leave the room, after a short call, our sense of smell is so blunted that we no longer perceive any difference between the air of the room and the pure external air. For this reason I would urge the necessity of frequently repeated examinations of the air of rooms, especially of rooms occupied by the sick.

#### ASCOCOCCUS GANGRENOSUS: REPORT OF A CASE OF GANGRENE, WITH BACTERIOLOGIC INVESTIGATION.<sup>1</sup>

By D. BEVAN, M.D.

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CASE I.—Mr. B., a colored man, seventy-two years of age, whose general health had always been good, and whose habits had been unexceptional, had never suffered from any prolonged illness and there was no history of inebriety or venereal disease. On November 27th, 1890, the patient complained of intense pain in the great toe of his right foot, associated with a feeling of coldness and slight discoloration, the skin having a pinkish hue. In the course of a few days the discoloration became more intense, and on the outer side near the extremity of the nail, intensely black, shading from black to purple, from purple to reddish pink, the latter color extending up some distance on the foot. About the middle of December, Dr. Hearn saw the case and pronounced it one of senile gangrene; it had then developed an intensely penetrating and horrible odor, that could not be suppressed by the most active deodorants. The line of gangrene progressed slowly until December 23d, when it reached a line extending around the foot, just posteriorly to the tarso-metatarsal articulation on the upper surface, and involving the entire plantar surface of the foot, extending barely as far back as the heel. The line of demarcation developed and all further progress for the time seemed arrested. The pain was still excruciating and the disagreeable odor had not diminished. No constant record of temperature was kept, but there did not seem to be any very marked elevation; upon several occasions it ran as high as 101½°; there were no rigors and no evidence of septic absorption. The patient's general condition was very good; intense pain had kept him awake and annoyed him a great deal, but he did not seem to have lost strength. On December 27th, it was decided to amputate the limb. On account

<sup>1</sup> This report represents a part of the Thesis that secured THE MEDICAL NEWS Prize, and is one of a series of observations and experiments carried on in the Laboratory of Pathology under the supervision of Dr. Coplin, Demonstrator of Pathology and Lecturer on Hygiene.

of his age, it was thought that the shock would be less if the operation could be rendered bloodless by the use of Esmarch's bandage. The operation was done under the strictest antiseptic precautions. The line of amputation was such as to divide the tibia just below the tubercle. The larger bloodvessels were remarkably calcareous, and held the ligatures very poorly. The patient bore the anesthetic (ether) very well indeed; his pulse seemed stronger and his color better after the operation than it had been before. The flaps did not retract as far as they should have done, and did not seem to regain their color, looked white, and the elasticity of the skin seemed diminished. The limb was enveloped in cotton and surrounded by hot-water bags, these being renewed from time to time in order to insure the application of abundant warmth. The pain almost entirely disappeared; prior to the operation, he had been taking from a grain and a half to three grains of morphine per diem; he now passed a quiet night and enjoyed some sleep, although there had been administered but a quarter of a grain of morphine immediately after the operation, which was at 3 P.M. On the following day the dressings were removed and found but slightly blood-stained; the flaps did not seem to have regained their color, and there was no evidence of any inflammation along or near the point of suturing. The wound was washed with a one to one thousand bichloride of mercury solution and again dressed in the bichloride gauze; hot water was reapplied as had been done in the first dressing. The patient's general condition seemed very good indeed; he had no pain and felt no particular discomfort in the limb; he was taking nine grains of quinine each day, supplemented by the very best food that could be obtained, and the administration of three whiskey punches in the twenty-four hours. He passed a very quiet night, and on the following day—the third day after the operation—seemed to be feeling very well; there was no perceptible weakness, and the wound was again dressed as before. On the following day the pain had returned with renewed intensity, and the wound again gave off the penetrating, peculiar odor so characteristic of senile gangrene. At this dressing the entire flaps were gangrenous, the intense black fading off through several successive changes in hue, and again extending in irregular lines over the external and upper surface of the knee-joint. The gangrenous wound was thoroughly washed out with peroxide of hydrogen in the hope of neutralizing the odor, followed by washing with bichloride of mercury solution and the reapplication of antiseptic gauze. On the fifth, sixth, seventh, and eighth days his condition remained about the same and the gangrene did not seem to extend. On the ninth day after the operation a bedsore had developed on one hip; this emitted the same fetid odor and was the seat of the same intense pain that had been present in the limb.

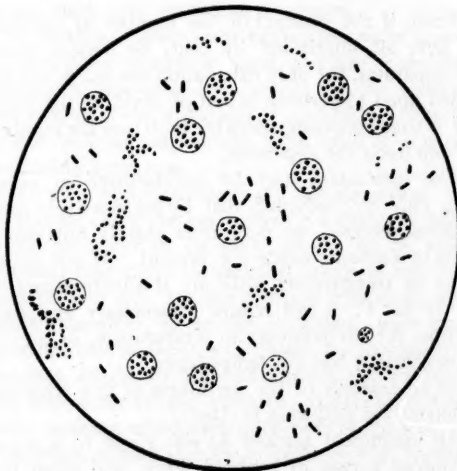
The patient was perceptibly weaker and sinking fast; although taking from three to five grains of morphine a day, his suffering was terrible; he no longer took nourishment, could not sleep; chills, at first slight, afterward more severe, were associated

with and followed by intense pain and fever. The gangrenous process in the leg stopped at the knee-joint and did not seem to have any tendency to progress further. The bedsore increased in size until, on the twelfth day after the operation, it was as large as a dinner-plate, its surface covered by a black sloughing mass. On the thirteenth day his consciousness for the first time gave way, and on the morning of the fourteenth day he died.

It was impossible to obtain the amputated limb, as he had expressed a desire that it be buried; permission, however, was obtained to remove several small pieces of the sloughing tissue, as well as some of the bloodvessels, nerves, and pieces of muscle. The bloodvessels were intensely calcareous, the anterior and posterior tibials being the seat of the most marked atheroma and their lumen so diminished as to barely permit of the introduction of the smallest surgical needle.

The specimens of gangrenous tissue referred to were brought to the laboratory and the following experiments were made:

Tubes A, B, C, D, and E were inoculated on December 27th, and in twenty-four hours, at the temperature of the room, which averaged 70° F.,



Dry gangrene. Ascococci, micrococci, and bacilli—from agar-agar culture. Beck's  $\frac{1}{2}$  homogeneous immersion, Oc. 2. (Camera lucida drawing.)

developed a considerable growth, which was of ashen-gray color, opaque, and glistening. It penetrated the surface deeply and rapidly in dense clouds. It did not liquefy the agar. A horrible odor emanated from the tubes, closely resembling that which is so characteristic of senile gangrene.

Slides from these cultures showed cocci that somewhat resembled streptococci, but were considerably smaller than streptococci pyogenes. There were also present some few small bacilli. The cocci

stained but poorly with Ziehl-Neelsen's carbol-fuchsin solution, but evinced intense affinity for Weigert-Ehrlich's methyl-violet aniline stain. These spreads were all treated by Gram's method and mounted in Canada balsam.

The cultures were carried on through several generations and cover-glass impressions made, to determine the class to which they belonged. They were stained with methyl-violet aniline and mounted as previously stated. A microscopic examination revealed what was apparently a hyaline circular capsule containing many cocci, a number of which were stained of an intense blue color. No bacilli were perceived. There were other cocci present, arranged as monococci and diplococci.

On February 16th, at 4 P.M., a culture of these microbes was injected into the subcutaneous tissue of the thigh of a guinea-pig. On the following morning a small and intensely black spot, about the size of a split-pea, had formed, with a line of demarcation sharply defined. The gangrenous area was somewhat depressed, dry, and very hard. The animal was not active as usual, did not use the leg in locomotion, but held it close to the side of the body. It still continued to take food, although the amount, as compared with the quantity it usually devoured, was extremely small. The gangrenous area increased gradually day by day, and the animal absolutely lost the use of the limb. Attempts to move it caused great suffering, crying, and struggling. On the 20th a small circumscribed gangrenous area upon the abdomen, midway between the xiphoid appendix and pubes, was observed, and connecting it with the gangrenous process in the thigh, a round indurated band of tissue, apparently about one-fourth of an inch in diameter. After the 23d the pig rapidly declined, the prostration became extreme, and it did not appear to notice food placed in its cage, nor did it drink water. From this time it passed into a comatose condition. At intervals of about half an hour it would for a minute or two rouse itself and endeavor to stand, only to fall over on its side, all the while uttering the most plaintive cries. This condition continued, the stupor becoming more profound, and the intervals between its attempts to stand and the paroxysms of crying more prolonged. Its head sank and rested upon the bottom of the cage and its hair appeared to stand on end. While observing it on the evening of the 24th, at about 4.30 o'clock, it suddenly raised itself upon its forelegs, swayed from side to side several times, fell over, and expired.

After a careful dissection, the necropsy showed that the muscles of the abdomen, immediately subjacent to the gangrenous tissues alluded to, were becoming involved, being of a dull slate-color, and more easily broken down than healthy muscles.

The same odor that was noticed in detailing the history of the case was present, although not so marked.

Cover-glass impressions of the blood contained in the heart, show by the staining of aniline methyl-violet, by Gram's method, first treating with acetic acid, numerous cocci that arrange themselves as monococci, diplococci, and tetrads. Tubes were also inoculated from this blood, from which developed a mixed growth of bacilli and cocci, the former in by far the greater number. The macroscopic appearance of the liver seemed to indicate the existence of metastatic abscess, and as soon as the liver attains the required consistency, it will be cut and microscopic examination made.

One of the peculiar features of the case of the old man with senile gangrene was the apparent limitation of the gangrenous process, which extended so far, and then the line of demarcation formed after the amputation and reestablishment of the gangrene in the stump; it will be remembered that a second necrotic area formed upon the buttocks, which also became circumscribed. Now comparing the symptoms, etc., of this case with that of the guinea-pig, in which gangrene was produced by the subcutaneous injection of microorganisms cultivated from pieces of tissue taken from the amputated limb, one cannot fail to recognize the similarity or identity of the two conditions.

In considering this case, and bearing in mind the guinea-pig experiment, the writer concludes that the immediate cause of death in such cases is the entrance into the circulation of these microbes, their proliferation and the production of ptomaines, and septicemia. That the flaps after amputation should have become gangrenous is not surprising, and, in my opinion, cannot be attributed wholly or directly to the diseased condition of the arteries. I believe that the physiologic resistance of the cells, supplied with but a small quantity of blood, was considerably diminished, and that the roughened intima of the bloodvessels furnished a condition preëminently suited for the mural implantation of the microbes contained in the circulating blood; that the microbes were either present or effected an entrance into the blood at the time of the operation, and that they subsequently lodged in the flaps and proceeded to exert upon the tissues their specific pathogenic action.

The only explanation that I can offer as to why the gangrene did not manifest itself earlier after the amputation, is that through the agency of the bichloride, the organisms were prevented from localizing themselves, but that so soon as union had commenced, and the inhibiting and destroying influence of the antiseptic was removed, they established themselves in this *locus minoris resistentia*, and from



this point of vantage so thoroughly and rapidly invaded the tissues, that nothing could stay their progress.

The application of Esmarch's bandage may have also had an important rôle in the production of gangrene in the stump. The diseased condition of the arteries rendering them exceedingly brittle, portions may have broken down and the calcareous particles have been washed into the general circulation.

## CLINICAL MEMORANDA.

### A NOTE ON ASTHENOPIA AND INTRA-NASAL DISEASE.

BY G. E. DE SCHWEINITZ, M.D.,

PROFESSOR OF DISEASES OF THE EYE IN THE PHILADELPHIA POLYCLINIC; OPHTHALMIC SURGEON TO THE PHILADELPHIA AND CHILDREN'S HOSPITALS.

It is well established that a large number of ocular disorders (blepharitis, chronic hyperemia of the conjunctiva, phlyctenular kerato-conjunctivitis, and dacryocystitis) may have their origin in intra-nasal disease. Less frequently there is an association between atrophic conditions of the nasal mucous membrane and degenerative changes in the optic nerve, and quite a number of observations have been recorded in which a series of symptoms referred to the eyes, and in which the eyes themselves, in so far as the balance of the external ocular muscles and the refractive condition are concerned, were abnormal, nevertheless depended upon naso-pharyngeal disease. The cases which follow belong to the last class, and illustrate one or two instructive points:

CASE I.—Miss M., aged nineteen, unmarried, reported for treatment October 23, 1890, with the following statement: She had worn glasses since she was eight years of age, in the hope of obtaining relief for almost constant headache. Frequent changes in the correction had been made, but no glass had ever been prescribed that gave her much relief. There were stubborn asthenopia and post-ocular and supra-orbital pain, aggravated by exposure to sunlight, and changed into an explosion of violent general head-pain on the slightest use of her eyes. Headache on rising was usually present. The family history was good, and her general health was perfect. The ophthalmoscope revealed on each side an oval, over-capillary optic disc. There was slight absorption of the retinal pigmented epithelium and some exposure of the larger vessels of the choroid. Glistening reflexes played through each macular region. After the use of atropine, the refractive error was found to be the following:

O. D. + sph. 1.50 D.  $\ominus$  + cyl. 0.62 D. axis V =  $\frac{1}{2}$ .  
O. S. + sph. 2.25 D.  $\ominus$  + cyl. 0.62 D. axis 75 =  $\frac{1}{2}$ .

The muscular balance was as follows: Esophoria, 3°; esophoria in accommodation, 3°; no manifest hyperphoria. Practically no improvement took place, in spite of all reasonable treatment.

Attracted by the persistent morning headache and a slightly nasal voice, an examination of the posterior pharynx was made, revealing the evidences of some

post-nasal catarrh. The patient was then referred to Dr. J. Solis-Cohen, who reported as follows: "There is chronic suppurative disease of the frontal sinus and ethmoidal cells, with consequent chronic inflammation of the mucous surfaces over which the discharges trickle and become adherent. The treatment will require several months, but will be very satisfactory in its results."

Dr. Cohen's prophecy was thoroughly fulfilled. At the end of a month she reported herself much better. At her last visit, December 10, 1891, or more than a year after her original application for treatment, her vision had risen to  $\frac{1}{2}$ , the over-capillarity of the optic disc had subsided, and to use her own words, "I am practically without headache and have never known so happy a year."

CASE II.—Miss B., aged thirty, unmarried, reported for treatment May 20, 1891, and gave the following history: As a school-girl she suffered much with her eyes and with headache, and she was ordered glasses, but without much relief. She continued to receive ocular treatment for a number of years, consulting several surgeons, but experienced little relief and no lasting benefit. Her complaint was as follows: Much pain in the eyes, across the brows and directly in the nose; stubborn asthenopia, so that no work requiring the use of the eyes at close range could be performed for more than a few minutes at a time without bringing on violent pain, neuralgic in type. She was a slender woman of the neurasthenic type, but without disease to which a name could be given. Not exactly hysterical, she had become depressed by her long debarment from reasonable use of her eyes, and had undergone a somewhat prolonged "rest-cure." She was wearing the following combination:

O. D. + sph. 3.25 D.  $\ominus$  + cyl. 0.62 D. axis V =  $\frac{1}{2}$ .  
O. S. + sph. 2.75 D.  $\ominus$  + cyl. 0.62 D. axis V =  $\frac{1}{2}$ .

Through these glasses there was esophoria of 4° for the distant point, and about the same amount in accommodation. At one time she had worn weak prisms for hyperphoria without benefit. At the time of the examination no hyperphoria could be demonstrated. There were no abnormalities in the eyeground other than those common to hypermetropic eyes.

Attracted by the situation of the pain, and by the fact, previously unmentioned, that the asthenopia and also the pain were liable to be present most severely in the early morning hours, or, at all events, after resting, an examination of the nasal regions was made, and sufficient abnormality to justify special treatment was evident. She was referred to Dr. Ralph W. Seiss, who reported as follows: "There is a distinct tender spot over the right antrum; the septum is much engorged, with a myxomatous and hypersensitive spot high up on the right side. The turbinates are somewhat vaso-paretic (causing occasional stenosis) and infiltrated. The pharynx and larynx show moderate secondary changes. I believe that a fine cautery point to the septum would give considerable relief, and free antral drainage (by removing stenosis about meatus) might give very decided results. The patient volunteered that my manipulations—pressure and cocaine—have lessened the pain temporarily."

After a week's nasal treatment the patient acknowledged distinct improvement. From time to time reports came from this patient, always of a favorable character, and at her last visit, December 26, 1891, she was improved in every way. The neuralgia was practically gone, or, to use her own expression, "was an unusual occurrence." The eye-endurance was still limited, but reading or similar occupation could be maintained for a couple of hours without inconvenience.

CASE III.—Mr. E. W., aged thirty-seven, married, reported for treatment December 20, 1890, and gave the following history: For some years he has experienced pain above the eyes and in the occiput, aggravated by reading or similar use of the eyes. The ocular pain is apt to be worse in the morning, and the use of his eyes has been greatly abridged, owing to the symptoms that have just been described, and in spite of the use of glasses. The patient was in good general health, and with the exception of the use of tobacco, had no bad habits. In each eye there was an oval, rather pallid optic disc, unduly full retinal veins, and general woolliness of the choroid. After cumulative instillations of homatropine the refractive error was found to be

O. D. + sph. 0.50 D.  $\ominus$  + cyl. 0.75 D. axis V =  $\frac{3}{8}$ .  
O. S. + sph. 0.50 D.  $\ominus$  + cyl. 0.62 D. axis V =  $\frac{3}{8}$ .

There was exophoria of 5° degrees in accommodation; no other disturbance of the muscular balance.

At first the use of these glasses afforded some relief, chiefly in the amelioration of the occipital pain; later, this, as well as the ocular pain and asthenopia, returned. After an examination of the naso-pharyngeal region, the patient was referred to Dr. Ralph W. Seiss for special treatment. The following is his report: "There is rhino-tracheitis of average type, with the following peculiar features: The capillary circulation is markedly engorged (deep-red mottling without swelling); the turbinates are purple; the lateral areas of the pharynx are very much engorged, and the larynx so much so that the true and false cords are of about the same tint. There is probably congestion of the lining membrane of the sphenoid sinus."

Unfortunately the patient did not attend with great regularity, but after having paid Dr. Seiss three visits, and having received appropriate treatment, he was so much improved that he doubted the necessity of further attendance. The fact that he has not reported makes it seem likely that his relief has been permanent.

It is evident that these cases do not belong to the class of the ordinary nasal headaches which are so common in catarrhal patients. They are further interesting because in each instance the refractive error and the faulty muscular balance were of such a character that the symptoms of which the patients complained would naturally be ascribed to these anomalies; and they are finally worthy of note because the patients were, to a great extent, unconscious of, or at least indifferent to, very serious and decided lesions in the naso-pharyngeal region. The definite relationship of the nasal and ocular difficulties in these cases seems well established, and it is evident that the treatment of each region had its special value in bringing about the cure. It is also plain that the careful examination and treatment of the eyes were not alone sufficient to alleviate the asthenopia,

headache, and ocular pain which, although they seem in a large measure to have been dependent upon intranasal disease, were none the less provoked by the use of the eyes, and on this account the real cause of the difficulty might readily have escaped attention.

### THE REMOVAL OF ADENOID GROWTHS FROM THE VAULT OF THE PHARYNX.<sup>1</sup>

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THERE seems to be such diversity of opinion amongst rhinologists as to the best way of removing adenoid tissue from the vault of the pharynx, that I shall endeavor in this article to emphasize the advantages of one particular instrument as compared with others, and to attract the attention of such as are unfamiliar with its use by tracing the steps of the operation necessary for its successful completion.

The instrument is one that was devised by Dr. Gradle, of Chicago, and given to the profession some two years ago; it is known as the Gradle forceps. I will not enter into a minute description of the instrument, but think on inspection some of its claims for consideration will be apparent. I base my conclusions on one group of twenty-nine cases upon which I have operated during the past year, at the Manhattan Eye and Ear Hospital. As most of the subjects for operation are children under the age of twelve years, it seems to me absolutely necessary, for a complete removal of these growths at one time, that the patients should be etherized to the extent of abolishing the reflexes. It hardly seems requisite to enter a plea here for the use of general anesthesia, as who amongst us has not seen the terror depicted on the faces of our little patients when brought back for a second introduction of the forceps, when only cocaine had been previously employed. Certainly the time involved—from ten to twenty minutes—in administering ether and completing the operation is well spent, when one considers that henceforth, so far as that condition is concerned, one will not again have to operate on that child. The objection most frequently urged against general anesthesia in these cases, is the possibility of asphyxiation from blood or vomited matter finding its way into the larynx. This bugbear appears to have been given too great prominence, as in an experience of at least one hundred and fifty cases I have never seen the slightest inconvenience resulting. It should be remembered that by the time the mouth-gag has been adjusted and the usual digital examination made to locate the mass—meanwhile the patient inhaling pure air—we have only the primary stage of anesthesia to deal with. Such being the case, any substance is much more apt to find its way into the stomach than into the windpipe. In addition to this, the patient being in the dorsal position, with head extended and brought well over the end of the table, but little danger or difficulty will be encountered.

In reference to the location of adenoid growths occur-

<sup>1</sup> Read before the Section in Laryngology and Rhinology of the New York Academy of Medicine, January 27, 1892.

ring in the naso-pharynx of children, it appears to me that one is likely to get an erroneous impression from the text-books and special articles on that subject. Especially is this true when the symptom of mouth-breathing is not decidedly marked or exaggerated. On this account, having swept the choanae with the forefinger and thus discovered their patency, one may be inclined to doubt the original diagnosis. Experience leads me to believe that more than 90 per cent. of the well-defined groups of adenoid tissue in children lie at a considerable distance behind the free margin of the vomer, and not in close proximity to it.

Criticism has frequently been made by the casual observer that the antero-posterior dimensions of the Gradle instrument seem too large for introduction into a small child, and that the blades are too short to reach the vault of an adult pharynx. In explanation of the first objection, it is only required to add that the instrument is introduced sideways, closed, and under the guidance of the forefinger of the left hand, at the same time drawing forward the relaxed velum. The feasibility of reaching the most distant part of the adult vault is easily demonstrated on a skull. The blades having passed behind the velum and being allowed to open, will be found perfectly free and movable. The growth having been included and firm upward pressure being exerted, it is removed *en masse* by a closing and twisting movement of the handles. As in tonsillotomy, the more force and power brought to bear, the more complete the result. There is absolutely no danger of wounding the surrounding parts, by an operator who is familiar with their anatomy. The hemorrhage is fairly free for a moment, but ceases spontaneously. It is seldom necessary to reintroduce the forceps, and any remaining roughness may be smoothed down with the finger-nail. The patient is then rolled over, face downward, and such blood as may have accumulated in the mouth and nasal chambers is allowed to escape. By this time consciousness usually returns, and the patient is able to proceed homeward in the course of half an hour, with instructions to keep perfectly quiet for twenty-four hours. After-treatment in the way of sprays, etc., has been abandoned, as the children seem to do as well without it.

The action of the forceps is a combination of both the cutting and torsion methods. The greater proportion of the growth is cut through, and the remaining slight attachment twisted off. It scarcely seems essential to contrast the Gradle forceps with the numerous other instruments at our command, when we consider its simplicity and perfect adaptability to the purpose. Other devices seem clumsy or futile in comparison, when the number of introductions and small amounts of tissue removed each time are remembered. In making so sweeping an assertion as this, I feel sure of arousing the objection of a number of gentlemen who have found the Gottstein curette sufficient to meet their wants. Unquestionably the Gottstein is a most valuable instrument, and approaches the Gradle instrument more nearly in usefulness than any of the others. The latter, however, possesses a few minor advantages in addition that would seem to make it preferable, namely, as introduced, closed, it occupies far less space and is more readily directed to any portion of the cavity, finds its way more deeply into the base of the growths, and, what to my

mind is very satisfactory, retains the extirpated mass in the grasp of the blades until withdrawn. This is not true of the Gottstein, the severed tissue generally being lost and swallowed by the patient. Although hemorrhage is usually unimportant in these cases, unless we have to do with a "bleeder," yet I have observed that it is always more profuse after the use of the Gottstein curette. My query then is: What is left to be desired in an instrument that removes so large a mass at one effort, with safety and rapidity?

In this collection of cases the age ranged from two years to twenty-four years. The symptoms were those commonly observed in, obstructive nasal respiration: vacuous expression, mouth-breathing, restless sleep with snoring, impaired hearing and quality of voice, more or less irritative cough, and a generally anemic appearance. Of these twenty-nine cases of adenoids of the vault, twelve, or nearly one-half, were accompanied by hypertrophied tonsils, which were removed at the same sitting but previous to the performance of the adenotomy. The patients have recently been examined, and, without exception, the results have been very gratifying. The amelioration of symptoms was apparent within the first few days. In fact, the usual report of the parent has been, that "the child slept better on the first night after operation than it had done since first troubled with catarrh." It occasionally happens, however, that a week or ten days' time will be required to demonstrate any marked improvement. This, I presume, may be accounted for by the fact that in such cases the hypertrophied glandular tissue is distributed over a larger area, and the increased mechanical interference necessary for its removal causes a more marked inflammatory reaction.

## MEDICAL PROGRESS.

**Lateral Anastomosis for Carcinoma of the Bowel.**—At a recent meeting of the Philadelphia County Medical Society, ASHTON reported the case of a woman, twenty-eight years old, who for three months presented failure in health and loss of weight, with paroxysms of abdominal and pelvic pain, preceded by abdominal distention. There was obstinate constipation; and nausea and vomiting set in. Celiotomy was performed, and a large carcinomatous mass was found involving the ileum, with glandular metastasis. The extent of disease was so great that resection seemed dangerous, and a simple lateral anastomosis was established. Solid rubber oval rings were employed, together with the right-angle continuous suture. Irrigation was omitted, and no provision for drainage was deemed necessary. The entire operation occupied twenty-five minutes. The patient recovered without complication. Three months after the operation the patient had gained thirty-five pounds in weight, and was in general much improved. Stress is laid upon the following points:

The necessity of frequently douching the seat of operation with warm sterilized water, to prevent the dangers of infection and shock.

Rapidity in operating is of great importance to insure success.

Early feeding by the mouth should be employed in all cases, especially in those already weak and exhausted.



This does not add to the dangers of leaking, as the parts are perfectly secure if proper rings and additional sutures are employed.

An important factor in causing subsequent closure of the anastomotic opening is direct union between the edges of the incision. This danger may be materially lessened by using a steel punch in making the opening, by stitching together the edges of the serous and mucous coats of the bowel, by placing the lateral sutures of the ring as close as possible to the margins of the incision, and lastly by making the anastomotic opening sufficiently long and of an oval shape.

**Obstruction of the Bowel by a Gall-stone.**—BIRCHER (*Correspond.-bl. f. Schweizer Aerzte*, 1892, No. 5, p. 142) has reported the case of a woman, sixty-two years of age, who for two years had complained of anorexia, digestive derangement, and constipation. Three or four years and one year previously, there had been attacks of severe cardialgia, after which the urine was deeply colored, but no jaundice appeared. When the patient came under observation there had been severe abdominal pains, followed by vomiting that soon became fecal. The abdomen was soft and retracted, but on deep manipulation a sense of resistance was evident in the right hypogastric region. Tenderness and spontaneous pain developed a little below the ileo-cecal region. Upon opening the abdomen, the intestines were found free but reddened; there were no evidences of peritonitis. Further examination disclosed the presence of a hard body occluding the lumen of the small intestine. In this situation a fecal odor was perceptible and the bowel appeared to be ulcerated. On opening the bowel a stone was found and removed, and the bowel was resected for a distance of almost eight inches, and was closed by three rows of sutures. The woman died in collapse ten hours after the operation. An autopsy was not permitted. The stone was pear-shaped, more than two and a half inches in its longest diameter, one and a quarter in its greatest thickness, and weighed eight hundred grains. It consisted of a nucleus of cholesterin and a cortex of lime-salts of bilirubin.

**Cholecystenterostomy for Gall-stones.**—HELPERICH (*Deutsche med. Wochenschr.*, 1892, No. 8, p. 157) reports the case of a man, thirty-seven years old, who had had repeated attacks of hepatic colic, attended with jaundice, and clearly dependent upon the presence of biliary calculi. Surgical interference was decided upon. An incision was made midway between the costal margin and the border of the enlarged liver, and extended vertically in the linea alba to the ensiform cartilage. The liver was pressed upward and backward from above by an assistant, and the gall-bladder exposed. This viscus was pear-shaped and moderately tense, but contained no calculi; it was adherent to the inferior surface of the liver. Calculi were palpable in the ductus choledochus. The relations of the parts rendered incision of the duct, with removal of the stones and subsequent suture, inadvisable, if not impossible. With a view of affording at least palliative relief, openings were with considerable difficulty made in the gall-bladder and the first part of the jejunum, and the corresponding edges approximated, leaving an orifice of communication of

the thickness of a lead-pencil. The patient made a satisfactory recovery.

**The Etiology of Epidemic Dysentery.**—In evidence of the view that dysentery is not etiologically dependent upon any single specific factor, MAGGIORA (*Centralbl. für Bakteriologie u. Parasitenk.*, Bd. xi, No. 6 u. 7, p. 173) has reported the results of microscopic examination of the feces in twenty cases of dysentery, with bacteriologic examination in eleven cases, during an epidemic involving more than two thousand persons. There were three deaths among the number. In addition to red and white blood-corpuscles, intestinal epithelium, mucus, oil-globules, and particles of food, large numbers of microorganisms were found in the stools. The bacterium coli commune was found in large numbers in all cases. *Proteus vulgaris* was found in almost all cases in moderate numbers. In six cases the liquefying fluorescence-bacillus was found. Of a large number of examinations the ameba coli was found in but one. In another case the paramoecium coli was present. In some cases staphylococci and the bacillus pyocyaneus were found.

**Pernicious Anemia, Atrophy of the Gastric Mucous Membrane, and Degeneration of the Spinal Cord.**—At a meeting of the Medical Society of Hamburg, EISENLOHR (*Münchener medicin. Wochenschr.*, 1892, No. 5, p. 79) reported the case of a man, sixty years of age, who for three months had complained of general weakness. Digestion was not deranged, but there were motor weakness of the extremities, a spastic-paretic gait, and incontinence of urine and of feces. Paraplegia soon appeared. Sensibility was unimpaired, though the patellar reflexes were absent. There were, besides, marked anemia, heart-murmurs, and poikilocytosis, but no hemorrhage. Temporary diarrhea occurred, but presented nothing unusual. The patient died of exhaustion. At the autopsy a high degree of atrophy of the glandular structure of the stomach and intestines was found. There was parenchymatous cloudiness of the heart-muscle. The liver responded to tests for ammonium sulphide. The posterior columns of the spinal cord were degenerated.

**The Relation of the Knee-jerks to Super-venosity.**—In a preliminary communication, HUGHLINGS JACKSON (*Brit. Med. Journ.*, No. 1624, p. 326) records having found an absence of the knee-jerks in some cases of pulmonary emphysema in which the aëration of the blood was greatly interfered with. To confirm the accuracy of the observation he suggests that the knee-jerks be tested before and after the administration of oxygen to cyanotic patients. "If super-venosity is a cause of loss of the knee-jerks, the fact may be important with regard to the apoplectic state, and possibly somewhat with regard also to post-epileptic coma."

**Hysteria in a Girl of Thirteen.**—At a meeting of the New York Neurological Society, LESZYNSKY presented a girl, thirteen years old, in whom for two and a half years, following a frightful dream, paroxysms of causeless laughter and weeping had occurred. In the preceding year, menstruation set in and convulsive

seizures appeared, usually aggravated at the menstrual periods. The girl had had attacks of motor aphasia and others of mutism lasting for a week or more. The convulsions lasted at some times for many minutes, and at others for hours. Hysterogenic zones appeared at various parts of the body. There were visual hallucinations and occasionally maniacal attacks and movements of rotation and of combined rotation and retropulsion. The visual fields had been contracted. There had been transient hemiplegia. The knee-jerks were preserved, but feeble. There was no history of onanism or of ovarian disease. The general health appeared good.

**The Influence of Light upon the Growth of Bacteria.**—In comparative observations made upon the influence of sunlight and electric light upon the growth of cultures of bacilli of typhoid fever, GEISLER (*Centralbl. f. Bakteriologie u. Parasitenk.*, 1892, xi, 6 u. 7, p. 161) found that there was no qualitative difference between the two, only a quantitative difference—that is, both forms of light exerted an inhibitory influence upon the growth of the organisms on gelatin; sunlight, however, in greater degree than electric light. Not only the light-rays and the chemical rays, but also the heat-rays, participated in this influence. All the rays, except the red, exerted a retarding influence on the growth of the bacilli, greater in degree in proportion to the index of refraction and inversely to the wave-length. The influence exerted by both sunlight and electric light depended not only upon a direct action upon the bacilli, but also upon changes set up in the culture-medium.

**Tetany of Gastric Origin.**—BOUVERET and DEVIC (*Revue de Médecine*, 1892, Nos. 1 and 2), conclude a lengthy paper, detailing a large number of observations, by expressing the opinion that the tetany that sometimes appears in individuals with dilatation of the stomach is particularly associated with a condition of permanent hypersecretion, which results in the development of a toxic agent, which, injected into lower animals, gives rise to symptoms of spasm or of paralysis. The toxic agent is considered to be a modification of syntonin, which can be extracted from the peptones of normal digestion by alcohol in the presence of free hydrochloric acid. In cases of permanent hypersecretion, especially when associated with gastric retention, alcohol must thus be strictly interdicted. When tetany has appeared, the indication is to evacuate and wash out the stomach.

**Aneurism of the Heart.**—At a meeting of the Royal Society of Physicians of Vienna, KUNDRAT (*Internationale klin. Rundschau*, No. 8, 1892, p. 315) presented the heart of a patient that during life had presented symptoms of myocarditis. The organ was enormously enlarged. The right ventricle was as large as a fist; the left ventricle as large as two fists, and adherent to the thickened pericardium. The surface of the organ presented three prominences, one of which, half as large as an apple, presented an orifice communicating with the left ventricle; the second was as large as a hen's egg and separated from the adjacent third only by a cicatrix. The primary process had been a myocarditis, as indicated by the multiplicity and contiguity of the lesions.

## THERAPEUTIC NOTES.

**The Treatment of Hemorrhoids.**—At a meeting of the Medical Society of London, LAUDER BRUNTON (*Lancet*, No. 3576, p. 583) dwelt upon the influence of cold and over-eating in the development of hemorrhoids. Mercurials, followed by mild salines, are useful in preventing hepatic congestion. Aloes, in large doses, may conduce to the development of hemorrhoids by over-stimulation of the muscular coats of the rectum. Small doses, on the contrary, exert a beneficial influence. Hepatic congestion due to cold may be relieved by the application of hot-water bags to the nape of the neck and over the liver. Patients subject to hemorrhoids should become accustomed to emptying the bowels at night, so as to secure rest in the recumbent posture. When there is much irritability at the anus it is preferable to use a soft sponge and water instead of paper more or less harsh. A pledget of animal wool dipped in hamamelis and introduced into the rectum will act as a mechanical support and as an astringent. In obstinate cases an anal pad may afford great relief.

**For Pediculi Pubis.**—The following ointment may be applied topically for the removal of pediculi pubis, without danger of salivation:

R.—Hydrarg. ammoniat. . . . gr. xxxv.  
Balsam. Peruvian. . . . . 3j.  
Olei petrolei . . . . . 3ijss.  
Lanolini . . . . . ad 3viij.—M.  
WHITLA.

**For the Paroxysm of Asthma.**—

R.—Morphinæ sulphat. . . . . gr. ½.  
Atropinæ sulphat. } . . . . aa gr. 1/100 —M.  
Nitro-glycerini }

S.—Add to sufficient sterile distilled water, and inject hypodermically at the onset of the paroxysm.

FUSSELL.

**For Otorrhea.**—

R.—Acid. boric. . . . . 3ijss.,  
Glycerini } . . . . . aa f3j.—M.  
Aquæ }

S.—Instil a quantity sufficient to fill the auditory canal three or four times daily. J. LEWIS SMITH.

**Treatment of Diphtheria.**—GAUCHER (*Gaz. des Hôpitaux*, 1891, No. 122) recommends the local application of the following formula in the treatment of diphtheria:

R.—Acid. tartaric. . . . . gr. xxiv.  
Acid. carbolic. . . . . 3ij.  
Spts. vini rect. . . . . f3iv.  
Olei ricini . . . . . f3vj.  
Camphoræ . . . . . 3j.—M.

The membrane upon the affected surfaces is first gently removed. The application is then carefully made. After an interval of ten minutes, the parts are generously irrigated with boiled water, or a 1 or 2 per cent. solution of carbolic acid. If symptoms of laryngeal obstruction arise, a 2 per cent. solution of carbolic acid is constantly vaporized in the sick-room.—*Centralbl. für die gesammte Therap.*, x, 3, p. 172.

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SATURDAY, APRIL 2, 1892.

## SURGICAL INSTRUCTIONS FOR THE ENCOURAGEMENT OF VICE AND DEPRAVITY.

PERHAPS the physician is *not* "called upon to guard the morals of the community," though he that overlooks the intimate relation between immorality and unhealth can never be a sincere medical friend or a safe guide in the paths of hygiene.

If, however, we take but the narrow view of them that separate soul from body—or perhaps deny the reality of aught that is not carnal—even then it is hardly self-evident that the physician is called upon to aid in the debasement of public or private morals.

A recent number of one of our exchanges contains an article longer than seven columns, on "The Prophylaxis of Gonorrhea." All that the physician may legitimately teach on that subject needs but one word to be expressed completely and forcibly. That word, Chastity, is fittingly absent from among the thousands of words with which our cotemporary has not-graced its pages. The very types would have dropped from the forms had the attempt been made to introduce it into such companionship.

The article, it is true, does in a feeble way allude to the fact that one of the ways to "accom-

plish the exclusion of microorganisms" is "by avoiding exposure"—coupling it, however, with a shameless alternative, and intensifying the uncleanness of the association by a mild deprecation of the alleged fact that "the majority of men greatly prefer the risk of infection to adopting *either* of these certain preventives."

In the low spirit of complaisant opportunism this "unfortunate" tendency is calmly accepted; and any possible fear that might deter the minority of men from emulating the majority, is sought to be dissipated by the assurance that if the voluptuary does but carefully follow certain directions elaborated in these seven columns of "libertinism made safe," the punishment provided for his vice may be surely avoided. Is the gonococcus, then, Nature's only avenging angel?

True, it is the duty of the physician to relieve suffering, to heal disease, no matter whether that suffering and disease be caused by unavoidable misfortune, by avoidable error, or by wilful vice. It is likewise his duty to point out how, by obeying natural laws, suffering and disease may be prevented. But this is a far different matter from pointing out how, notwithstanding deliberate infraction of natural laws, the suffering and disease that Nature has provided as penalties for such infraction may be avoided.

In the case under consideration, surgery is degraded from its high position as an alleviator of human misery to that of an abettor of vice; it is made, indeed, the servant of the bagnio. This involves a threefold prostitution: the unfortunate woman is made to prostitute her body; the man prostitutes not alone his body and soul, but what may be of more importance to mankind at large, his wealth,—for the greatest social misfortune is the abuse of wealth unto evil,—and, finally, the priest of HYGEIA prostitutes his altar to the "strange fires" of the Cyprian APHRODITE.

The medical profession should be heard with no uncertain voice on the great question here involved. Many a man has been sent to his ruin by the immoral, unhygienic, criminally sinful advice of mis-called physicians. We recall at this writing a brilliant youth who, at the critical period of his life, succumbed to the influence of a medical man—a college professor, now (shall we say happily?) deceased—as poor in moral principle as he was rich in all the intellectual force and social graces that attract the young and captivate the inex-



perienced. Under this false physician's tutelage, the young man began a career of vice that directly led to forgery, flight, a father's "gray hairs brought in sorrow to the grave," the pecuniary ruin of a widowed and heart-broken mother. This is perhaps an extreme instance; yet it is but a single example out of many that we know, of the evil flowing from one singularly gifted man's malign advice.

It is not the religionist—the Puritan—only, who finds sexual immorality condemnable. Science abundantly confirms the message the Hebrews brought mankind from Sinai. The historian and the sociologist find in unchastity the prolific source of politic and economic woes. The evolutionist sees in promiscuity a survival of the instincts of the beast and of the practices of the savage. In the children of civilization it is a debasing atavism. Shall physicians endeavor to promote the progress of man from the bestial to the divine, or shall they facilitate his retrogression and degradation? What good purpose can be served by such an article as that published by our cotemporary? What base purposes can it not be made to further?

HIPPOCRATES was a heathen of the fifth century B. C. Contrast the oath that bears his name with this consummate product of the nineteenth century of Christianity.

#### THE SALTS OF STRONTIUM.

ATTENTION has recently been directed by various French observers, and especially LABORDE, GERMAIN SÉE, C. PAUL, and DUJARDIN-BEAUMETZ, to the therapeutic usefulness of the strontium salts. LABORDE<sup>1</sup> states that the toxicity originally attributed to strontium is due solely to the impurity of the commercial products formerly used, barium being the most common contamination.

SÉE credits VULPIAN, in 1885,<sup>2</sup> with the first attempt to make use of what he terms "the remarkable therapeutic properties of strontium salts."

The preparations employed in the experiments conducted at Paris were of absolute purity, and the results thus far reported seem to indicate that in strontium a valuable addition has been made to our resources. Whether or not the high laudations accorded to it will be found to be entirely deserved, must remain to be determined by future experience.

The two salts of strontium thus far placed at the service of physicians, are the bromide and the lactate. The latter, according to SÉE, has a remarkable influence upon digestion and nutrition, probably due to a special action upon the stomach; whether local or general he does not state. The daily dose is from 8 to 12 grams (from 120 to 180 grains). It is employed in all conditions indicating the use of alkaline salts, in which it is said to be superior to the potassium, sodium, and lithium compounds, and in chronic nephritis, in which it is said to remarkably diminish the quantity of albumin excreted without increasing the flow of urinary water. In gouty nephritis, especially, it is said to be of great service. It likewise seems, from these observations, that a strontium salt—perhaps citrate or acetate, should the lactate be deemed inadvisable—might be advantageously employed in the treatment of acute as well as chronic rheumatism, and perhaps in the paroxysm of gout, as well as in the management of the gouty diathesis.

Strontium bromide will probably largely supersede potassium bromide in nearly all cases in which the latter has hitherto been administered for prolonged periods; and perhaps, when the price becomes more reasonable, strontium bromide will displace potassium bromide altogether. Not alone does it produce the sedative influence due to its halogen element, but on account of the superiority of its alkaline base, it avoids all the dangers to nutrition that have hitherto been so great a drawback to the use of the potassium and sodium compounds in the management of epilepsy and similar conditions. In fact, the French observers claim that strontium directly promotes nutrition, improving the action of the stomach and the urinary functions, when combined with bromine as well as in other forms. It is soluble in water in all proportions. It is said not to produce cutaneous eruptions, depression, anemia, or cerebral torpor. Even in large doses, it is said to be devoid of toxic power. It may be taken in doses of four grams (one dram) at each of the three daily meals.

Of thirty-two patients suffering from gastric dilatation, treated with strontium bromide and strontium lactate, SÉE<sup>1</sup> claims that the majority has been improved and some cured. In diabetes, likewise, it is claimed that strontium bromide reduces the quantity of sugar excreted; and that in the

<sup>1</sup> Académie de Médecine de Paris, séances du 21 et 28 Juillet, 1891.

<sup>2</sup> Académie de Médecine, 28 Juillet, 1885.

<sup>1</sup> Académie de Médecine, October, 1891.

management of pulmonary tuberculosis it will find an important place in restraining cough and preventing the vomiting due to cough, at the same time producing its general tonic effect upon the stomach and digestive functions, and hence upon nutrition at large.

It would seem that other strontium salts, especially the iodide, chloride, fluoride, salicylate, and benzoate, ought to find many uses in therapeutics. It is to be observed that in the introduction of strontium into practical therapeutics and commercial pharmacy, manufacturers have supplied a demand originated by physicians; medical men have not been persuaded into creating a demand for the benefit of manufacturers.

#### THE PATHOLOGIST.

Do the readers of THE NEWS ever have special work for a pathologist? If so, do they ever think what the work of a pathologist is? Does it ever occur to them that he is a practising physician, in this respect occupying exactly the same position as they? That, at least in a majority of cases, he is also connected with some institution, and is much occupied in teaching? And, finally, for the foregoing reason, if for no other, that his time is valuable? In most cases the pathologist does his work at his leisure, if he has any. If a specimen is to be examined and reported upon, it may be not only inconvenient but often impossible for the pathologist to give an immediate report. Furthermore, it is to be remembered that, to be satisfactory, pathologic reports require tedious and prolonged researches, and much hard, earnest, and devoted labor. Aside from this, the pathologist not infrequently can make no report or examination until the tissue is sufficiently hardened for section-cutting. A physician has been known to call upon his pathologist with a tumor, and state that he would wait until the report could be given! Specimens of the nervous system require weeks, nay, in many cases months, before a scientific report can be made. Often, in so small a thing as the examination of urine, from twenty-four to forty-eight hours will, in many cases, be needed, especially when the sediment is deposited slowly, and the deposit of but small quantity. Sometimes the physician not infrequently asks for an immediate report, when this is not at all necessary. If the patient is dead, what is to be gained by rushing through the pathol-

ogy of the case? Under such circumstances the sender must remember that his specimen will invariably be laid aside until those cases are examined upon which, for clinical purposes, an immediate diagnosis is needed. For example, if a liver is sent the pathologist, and on the same day he receives a small fragment of a tumor in which a diagnosis is wanted, the liver case must inevitably wait until the tumor-fragment has been examined. This is but just to the patient, and to the physician or surgeon who sends the specimen. In addition to the foregoing, the modern pathologist, if he has done any work at all, is not anxious to be rendering reports upon what many physicians state as merely an interesting case. He has, in all probability, examined many such interesting cases.

There is still another aspect of the case not usually taken into consideration: It may never have occurred to the physician that the pathologist is a consultant, and that in giving an expert opinion the pathologist shares responsibility in the case—that often an operation hangs upon his word. Under such circumstances should he not be paid for his work? Finally, if the case is incorrectly reported, he will certainly be blamed. Is there any serious objection, therefore, to giving him credit? As he occupies the position of a consultant, is he not worthy of the honor and the fee of a consultant? Not infrequently the proposition is made that the sender will pay expenses. If this means pay for the time consumed, then all is well—it should mean that. The next time that you have a specimen to send to the pathologist please remember that if you are to avail yourself of his knowledge he should be remunerated for his labor and his time, just as much as the oculist or the clinician, the work of these differing from that of the pathologist only in this, that the clinician considers the symptoms, and the pathologist the lesion.

#### DEATH FROM COCAINE.

"I have never seen it: ergo—"

No man's experience, however wide, can cover all the possibilities of disease and accident. It may be wise and well for one to say, "I have not seen it," when the possibility or likelihood of this or that pathologic or toxic accident is under discussion; but it is never wise and never well because of the perhaps happy limitation of one's own experience, to deny the reality of occurrences vouched

for by competent observers, and not in themselves incredible.

These remarks are prompted by the report in *L'Union Médicale* for December 22, 1891, of a death following the injection of half an ounce of a one and one-half per cent. solution of cocaine into the tunica vaginalis testis, preparatory to the injection of iodine for the cure of hydrocele.

The solution of cocaine was withdrawn after less than a minute and the iodine injected. In a little while the patient returned, complained of great weakness, had clonic and then tetanic convulsions, became comatose and died in cardiac syncope.

At the autopsy there was found general congestion of the meninges and lungs, mitral insufficiency, and alcoholic lesions in the viscera. The tunica vaginalis did not communicate with the peritoneal cavity.

M. RICHARDIERE, in whose service the accident occurred, stated that he had made autopsies in eleven cases in which death had resulted from the injection of cocaine.

In a recent discussion at one of our Philadelphia medical societies, several speakers were inclined to make light of the dangers attending the use of cocaine, on the ground that in their own practice no accident had happened. This was in the discussion, too, of a paper in which two cases of syncope and delirium were reported and several other cases—some of them fatal—were cited.

While far from wishing to restrict the legitimate use of cocaine, we do wish once more to emphasize the fact that the same caution should be observed in ascertaining individual susceptibility (idiosyncrasy) to this drug as in ascertaining the same fact with regard to opium, arsenic, and the like.

#### THE VALUE OF A TRADE-MARK.

DIURETIN (KNOLL) and theobromine sodio-salicylate are chemically the same. There is no patent, so far as we are aware, preventing the manufacture of the latter by any competent chemist. As a matter of fact, a pure preparation is upon the market from the laboratory of a most reliable chemist.

*Diuretin* is a copyrighted, or trade-marked, name. The preparation sold under that name costs \$2.50 an ounce. A trustworthy preparation of the same thing, under its legitimate chemical name, costs fifty cents an ounce.

Would it be strange if, out of such profits, the

proprietors of copyrighted, trade-marked, names of medicinal preparations could not afford to subsidize "medical" journals, special pleaders against the code, and writers of so-called "clinical reports"?

### SELECTIONS.

#### THERAPEUTIC FRAUDS: HOW THE MEDICAL PROFESSION IS DECEIVED THEREBY.

As is evidenced by the tenor of the proceedings of the Minneapolis convention, the proprietary and patent medicine interests are prepared to go to any and all extremes to force their wares upon the medical profession. It, therefore, behooves every practitioner to scan carefully the character of the product brought to his notice and urged upon his acceptance. Especially dangerous is it to give a statement embodying advantages (real or supposed) attaching to any remedy of proprietary nature, since by erasures, emendations, etc., such, on appearing in print, are apt to present quite a different character from the original, and to embody considerably stronger and more definite commendation than was intended by the author.

Medical men should remember, proprietary interests are soulless, and influenced only by greed. The welfare of the ill and afflicted is the very last thing that enters into consideration, if, indeed, it ever cuts any figure at all. The aim is "the greatest profit with the least outlay."

That medicine is not an exact science is to be deplored, but, unfortunately, that which demands the utmost scientific care and acumen is the very factor that stands in the way of exactness. This also renders possible the success of the patent and proprietary medicine trades, and by means of the opprobrium that obtains in proportion to ignorance it is possible for these trades to obtain an influence that is exerted to the utmost to attain the desired ends.

For many years now proprietary interests have been steadily working to secure to their wares a semi-respectable and quasi-scientific standing. The tendency of the medical profession as a whole, and of their *clientèle*, to look to immediate and temporary, instead of future and actual, results has greatly aided the nostrum promoters in securing the aid, and on many occasions the confidence, of practitioners. Further, in many instances medical men who are careless of reputation, not animated by proper professional spirit, but seeing in their profession only means of money-getting, willingly act as "stool-pigeons," and prostitute themselves to these interests; they submit to be suborned and bribed to give utterance to laudations that have no tangible foundation, and it is a matter of regret that the number of this gentry is constantly increasing.

Again, therapeutics is burdened with an appalling list of proprietaries, and threatened with many more. Some are, perhaps, possessed of a measure of merit, but by far the greater number is undeserving of any confidence, while a large proportion masquerades under fancy, false, and misleading titles. Further, with a degree of power and insistence scarcely appreciable, an unusually large number is demanding (or preparing to



demand) recognition by the Pharmacopeia. Thus the attempt is slowly, insidiously, and none the less constantly being made to thrust these articles upon the medical and pharmaceutical profession by means of all the powerful machinery of political and individual interests, of monetary backing, etc., including bribery, false witness, and, in some instances, very close approaches to forgery.

The criminality of these procedures, which juggle with the lives and health of invalids and the sorrows of the afflicted, is a terrible comment upon our boasted nineteenth-century civilization.

We are led to the foregoing remarks, in part, by an exposure recently made in the columns of the *Bulletin of Pharmacy* for October and January last, regarding a trade-marked product termed "eucalyptol," put forth by an Australian firm; a product that, in spite of the claims of its proprietors (Sander & Sons) that they are the "only manufacturers of eucalyptol in the world," is as remote from being the article named as it is possible to be.

Some trite lessons as to the extent that fraud enters into marketing preparations of this class may be had by studying the moves of the proprietors of this fictitious eucalyptol.

They issued a circular, which has been distributed broadcast, purporting to be a translation of a paper on "Diphtheria," by Hugo Schulz, Professor at the University at Bonn, that is made to do duty as a direct laudation of their product, though Dr. Schulz, when communicated with, unreservedly repudiated the product, and denied all knowledge of the Sanders. His letter appears in the *Bulletin of Pharmacy*; further, in all his works Dr. Schulz speaks only relatively of oil of eucalyptus in diphtheria, declaring his preference, *first, last, and at all times*, for mercury.

A like trick is played with a paper of Prof. Mosler, of the University of Greifswald, published in No. 21 of the *Berlin. klin. Wochenschrift* for 1879. Widely separate paragraphs, having no relation to one another, are selected by the Sanders and deliberately garbled.

As further evidence of the character of the commendations published by the Sanders, the *Bulletin of Pharmacy* remarks as follows:

"In a circular sent out by 'Sander, M.D.,' of Dillon, Iowa, dated Sandhurst, Australia, July, 1891, appeared the names of eighty-five purported medical men, who are claimed as supporters of fictitious eucalyptol. One name is employed twice, which leaves properly but eighty-four. An analysis of this list shows the character of the evidence relied upon by the manufacturers to support their product. Four names after close investigation are demonstrated to have no tangible existence. Nineteen are arrant quacks, devoid of medical qualification. Thirty-three are doubtful; that is to say, cannot be found in Polk's register or in local directories, hence may be presumed to have no existence<sup>1</sup>—or perhaps are new

graduates, consequently without experience and incompetent for evidence. In five instances there is no such name or post-office as that given.

"Of those having authority to practise medicine, eight wholly repudiate the Sanders and their product, twelve have their names and addresses distorted, and there remains a total of but three individuals of presumed reliability for evidence. From these three must be deducted the name of Dr. Bartholow, which is made to do duty as a quotation from the *Medical Brief*, but which, as it appeared in that journal, bears unmistakable evidence of being a paid advertisement. The standing of Dr. Bartholow is evidence sufficient he never gave countenance to such 'scheme of piratical procedure.'"  
—*Editorial in the American Lancet, March, 1892.*

#### THE FUNCTION OF MYDRIATICS IN CORRECTING ERRORS OF REFRACTION.

"NOWADAYS the corneal astigmatism is measured with an ophthalmometer, and the rest of the work is easy with no mydriatic." This is the closing sentence in an editorial communication published in the *Post-Graduate* for February, 1892. With the main portion of this communication we are not at present concerned, but the sentence which has been quoted demands some consideration and a good deal of condemnation.

It is evident that refractive error may be corrected in one of three ways—first, by what the writer in the *Post-Graduate* is pleased to call "the ancient practice"—namely, paralyzing the function of the ciliary muscle with a mydriatic, and working out the refractive error with the trial lenses; second, with the shadow-test; and third, with an ophthalmometer.

It is fair to assume that a mydriatic exercises three functions—first, to paralyze the ciliary muscle; second, to dilate the pupil, and hence to facilitate a thorough examination of the refractive media and the periphery of the eye-ground; and third, to place the eye at complete physiological rest, so that the lesions so commonly present as the result of prolonged eye-strain may subside—not alone, we take it, merely because there is physiological rest, but because of a distinct sedative influence exercised by the drug.

We are very far from decrying either retinoscopy or the use of an ophthalmometer—both of them advances in practical ophthalmology of inestimable benefit; but we are also very far from believing that the high standard of refractive work which has been attained in this country, certainly in some portions of this country, will continue to maintain the position which it now holds, or will advance still further, if the doctrine is taught that the use of mydriatics is an "ancient practice," and that the measurement of corneal astigmatism with an ophthalmometer is always sufficient. A sentence in the last edition of Mr. Nettleship's excellent manual is *apropos*: "I think that there is reason to fear that the free use of retinoscopy by students, before they have mastered the more difficult 'direct method,' may tend to lower the present high quality of English ophthalmoscopic work." Equal dangers are the tendency to trust an

<sup>1</sup> Several are already found to have no real existence, while others are from dentists, druggists, surgical instrument dealers, saloon-keepers, and others who are by the Sanders clothed with medical titles and authority. We have been shown a letter regarding one Osborne, quoted by Sander, resident of Cottageville, Ky., who is an itinerant peddler, has served several times in

gaol for violation of the laws, has never studied medicine, and never pretended to practise.—ED.

ophthalmometer too implicitly, to fail in the detection of low degrees of astigmatism, and, finally, to adjust glasses to eyes that are not fitted to wear them, because there has been an imperfect examination of the refractive media and periphery of the eye-ground, and because the results of eye-strain have not been eliminated by the sedative measures to which allusion has been made. An ophthalmometer should always be used, and in suitable cases a mydriatic may be excluded; indeed, it is readily granted that it is often unnecessary; but the doctrine that mydriatics should not be employed in the estimation of errors of refraction is unworthy of converts.—*Therapeutic Gazette*, March 15, 1892.

#### AN ASYLUM FOR SUPERANNUATED INSTRUMENTS.

ACCORDING to a London letter to the *American Practitioner and News* for January 16th, old and discarded surgical instruments can be put to a good purpose by being sent to missionaries in foreign lands. A benevolent member of the Royal College of Surgeons has made a suggestion that all old-fashioned and discarded surgical implements be brought out of their dark corners and placed in the hands of the secretaries of those societies which employ medical missionaries. The gentleman who makes this appeal states that he knows of an instance of a missionary who had no other instruments than an ordinary case-knife and a pair of scissors with which to remove the frozen foot of a North American Indian, in whose case an operation was so imperative that he proceeded to operate with these. Fortunately the patient survived. A beginning has already been made by forwarding certain superfluous instruments and appliances to the Missionary Training College in East London. Old operating-cases, dental instruments, tourniquets, trocars, sounds, catheters, etc., may all be welcome and find their best value in the hands of those lonely pioneers, many of whom are a hundred miles distant, perhaps more, from any possible assistance.

### CORRESPONDENCE.

#### A PHYSICIAN'S OUTFIT.

To the Editor of THE MEDICAL NEWS,

SIR: IN THE MEDICAL NEWS of November 28, 1891, there was an editorial on the subject of physicians dispensing their own medicines. I wish to give in brief my experience and my methods as regards this, for the information of some of the younger members of the profession who may have just begun or are about to begin practice. Some physicians dispense their own medicines from necessity, some from choice—the necessity or choice depending on how near they or their patients are to the nearest drug-store. I have done both prescribing and dispensing, and as a result of my experience would say, that with the exception of a few articles, I prefer to dispense my own medicines, even when a drug-store is only a few doors away. The reasons for doing this are well stated in the editorial referred to, and substantially agree with my experience. To my mind, these are the most important:

First. In the case of office-patients they are much more likely to pay cash at the time of the visit if they get the medicine then and there, than they are to pay for advice only and the prescription. I find no difficulty in charging an advance sufficient to pay the cost and a fair margin of profit on the medicine given. When the cost of the medicine is only trifling I charge no advance. In the case of patients with only a little money they will neglect to pay the doctor because they must save the money to pay for the medicine. When the doctor is his own druggist, he is more likely to get paid both for his advice and his medicine.

Second. When we dispense our own medicines a large share of the competition of homeopathy is removed. In fact, I have been not infrequently called a homeopath, because I mixed up medicine in a glass at the patient's house. The average layman's idea of a homeopathic physician is one who gives pleasant medicine and mixes it himself. I believe a large share of the popularity of homeopathy is due to this fact, rather than to any comprehension of or belief in the principles of Hahnemann.

Third. There is great saving in time, especially in acute cases. When the physician has the remedies with him, he can administer them at once, instead of being obliged to wait until the prescription can be filled at some drug-store.

Fourth. Safety. There is much less liability to errors of administration when the first dose is given by the physician himself (I refer now to house-visits).

The foregoing reasons all hold true when the physician has his druggist next door, as well as when, like myself, he has a country practice of from four to six miles' radius. In country towns a certain amount of personal dispensing is absolutely necessary, even if there be a drug-store in the town; because patients cannot be expected to send from three to six miles for the medicine after the doctor has made his visit. In my own field I carry the only drug-stock in town and hence do all my own dispensing for both office and house patients. I carry two satchels, one for buggy use, and a smaller one with fewer remedies for calls nearer home.

For the benefit of some of the younger men I will give the contents of my buggy-case, more as suggesting remedies than as laying down any rule as to what should be carried. In making the selection of remedies one's own preference and the season of the year are to be consulted, in summer the variety being a little different to that for winter. By having extra bottles of the various sizes fitting one's case, the variation in remedies is easily accomplished and without loss of time. Owing to the large number of excellent and reliable preparations of remedies now obtainable in the form of triturates and tablets, quite a variety can be carried in a small compass. These preparations are as palatable as the homeopathic remedies, while they have much greater therapeutic effect.

My buggy-case contains eighteen one-ounce vials, in which I carry: Potass. brom., in crystals; sodium salicylate, in powder; ammon. chloride, in crystals; pepsin saccharatum; potassium chlorate; sodium bicarb.; acetanilid; calomel  $\frac{1}{2}$  gr., bismuth subnit. 2 gr., soda bicarb. 2 gr.—mixed in this proportion and labelled nausea powder (satisfactory in nine cases out of ten for

nausea); spts. æth. nit.; tr. digitalis; tr. opii deod.; ammon. carbonate, saturated solution, gr. xv to 3j; alcohol; tr. cardamom co.; acid hydrochloric dil.; spts. ammon. aromatic; chloroform and quin. sulph., in two-grain, sugar-coated compressed tablets (these, being flat, are readily swallowed, and have the additional advantage that very few people suspect them of containing quinine; if only one grain is wanted, they are readily cut in two).

There are eleven half-ounce bottles, containing: Tr. aconiti; tr. belladonnæ; lead acetate; chloral, in solution, gr. j to gr. j; tr. capsici; bismuth subnitrate; tr. nucis vomicæ; fl. ext. ergot; sugar of milk; pulv. ipecac. et opii; tablets—iron, arsenic, and strychnine.

These are twenty-four two-dram vials, containing: Caffeine citrate; tannin; calomel; Turpeth mineral; borax; persulph. iron; pulv. ipecac; fl. ext. ipecac; comp. tr. opium; and the following in tablets: "Hepatic" (containing euonymin  $\frac{1}{4}$  gr., podophyllin  $\frac{1}{16}$  gr., ipecac  $\frac{1}{4}$  gr., calomel  $\frac{1}{4}$  gr., aloin  $\frac{1}{16}$  gr.); aloin  $\frac{1}{4}$  gr.; strychnine  $\frac{1}{16}$  gr.; ext. belladon.  $\frac{1}{4}$  gr.; ext. cascariæ sag.  $\frac{1}{4}$  gr.; calomel,  $\frac{1}{16}$  gr.; soda, 1 gr.; "rhinitis" (containing quin. sulph.  $\frac{1}{4}$  gr., ext. belladon.  $\frac{1}{4}$  gr., camphor  $\frac{1}{4}$  gr.); ammon. mur. comp. with codeia (containing ammon. mur.  $\frac{1}{4}$  gr., licorice  $\frac{1}{16}$  gr., cubebs  $\frac{1}{4}$  gr., codeia  $\frac{1}{16}$  gr.); "sciatica" (containing tr. aconite  $\frac{1}{4}$  m., tr. bellad.  $\frac{1}{4}$  m., cimicifuga,  $\frac{1}{4}$  m., tr. colchicum  $\frac{1}{4}$  m.—a very satisfactory combination); calomel,  $\frac{1}{4}$  gr.; Dover's powder, gr. j; rhubarb and soda; morphine sulph.,  $\frac{1}{4}$  gr.; nitro-glycerin,  $\frac{1}{16}$  gr.; calcium sulph.,  $\frac{1}{16}$  gr.; "fever" (containing tr. acon. 1 m., morph. sulph.  $\frac{1}{16}$  gr., tartar emetic  $\frac{1}{16}$  gr., ipecac  $\frac{1}{4}$  gr.); nitro-glycerin comp. (containing nitro-glycerin  $\frac{1}{16}$  gr., tr. digitalis mjj, tr. strophanth. mjj, tr. belladon. m $\frac{1}{4}$ , tr. ginger, m $\frac{1}{4}$ , pulv. opii  $\frac{1}{4}$  gr.). In a compartment in the same case are nitrite of amyl pearls; opium and belladonna suppositories; pil. cath. comp., U. S. P.; and extra hypodermatic tablets; also a catheter and powder papers. The whole is arranged so compactly that the case is by no means uncomfortably large. With it, filled as indicated, almost any condition likely to be met with can be satisfactorily treated, or at least cared for until any further needed remedies can be brought at a subsequent visit. Most of the time I find it all I need; having, as I said, extra bottles of all of the sizes. I vary the contents as occasion may require, depending upon the season of the year and the prevailing medical fashion as concerns remedies. A word about administering remedies at the house: Tumblers and spoons vary very much, but sufficient accuracy with liquids and powders mixed in water can be attained by measuring in the glass to be used, with the spoon to be used, the desired number of doses, and then adding the medicine accordingly. This is quite as exact as the usual prescription label of a teaspoonful, no directions being given as to the size of the teaspoon. This measuring of the water in the glass does not take long and insures accuracy. Another thing that I have found of great help is to write out in full all the directions, with the exact hours when everything is to be given, especially in cases of acute illness. This makes a sort of calendar and avoids all chance of misunderstanding, and by having each dose as given checked, the physician can tell the next day at a glance just what has been done. The directions are written on a piece of powder paper, always in the medicine-case, so

that no time is lost while the family hunts for paper, and the time required is very short. Powders are made sufficiently accurate in most cases without weighing, especially if they be weighed out a few times in one's office and an approximate idea of size and weight obtained. For surgical work I carry always ready, a bag with bandages, ether, gauze, and cotton, a syringe, and antiseptic tablets and powders. For obstetric work my armamentarium is that usually carried.

GEO. L. RICHARDS, M.D.

MARION, MASS.

#### PEROXIDE OF HYDROGEN IN DIPHTHERIA.

To the Editor of THE MEDICAL NEWS,

SIR: The article "*In Re Hydrogen Dioxide*," by Dr. Wallian, of New York, in THE MEDICAL NEWS of January 30th, reminds me of an experience that I had in December. This experience, while not resulting fatally to my patient, was quite alarming, and illustrates how, as a profession, we may be at the mercy of unscrupulous wholesale pharmacists. At the time I refer to I was treating several cases of diphtheria, using the peroxide of hydrogen, diluted one-half, as a throat-wash, applied by means of an atomizer. The results were good and the case of which I wish to speak particularly had almost recovered, there being but a slight remnant of a membrane on one of the tonsils, and this presented the rotten, swollen condition indicative of its speedy disappearance. At this time the retail druggist had just received a new supply of hydrogen peroxide—a fresh one so far as we could judge—and with some of this my prescription was refilled. This last supply was not from the same manufacturer as that we had been using, but was one of the most extensively advertised New York brands, put up in a long-necked bottle with space "necessary for expansion," as Dr. Wallian describes his sample No. 2.

After this had been used in the child's throat two or three times, the mother became alarmed at the effect and sent for me in great haste. Her attention had been called to the change in the medicine by the fact that the child would cry with pain whenever she would use the spray. Before this he had been quite docile. On examining the child's throat I found a very thin, grayish membrane covering the tonsils, uvula, and posterior pharynx, and around the edge of it in the mouth, the mucous membrane was reddened and angry-looking. On gargling my own throat, which was not tender, with the solution, I experienced a sharp burning sensation and my teeth were "set on edge" by the hyperacidity of the solution.

The membrane in the child's throat ran the typical course of a diphtheritic membrane, lasting, however, about a week. That the fresh invasion was caused by the irritation from the hyperacidity of the solution, I have no doubt, and I am strengthened in this belief by the fact that it ceased to extend as soon as the peroxide was withdrawn from the throat-wash, and by the fact that another case fared in a similar manner from the use of the same sample, although in this latter case the symptoms were not so alarming.

Now, I am thoroughly convinced from an experience in several severe epidemics, since its introduction, that



the peroxide of hydrogen is one of the most valuable, if not *the* most valuable, local agent we have in diphtheria, and I sincerely hope that an agitation against the sale of an impure article may touch the stony heart of the pharmaceutical chemist, so that we shall neither have to abandon this useful agent, nor prescribe it with fear and trembling that we may do the little sufferer from diphtheria more harm than good. I know that it is rather an unstable article, but I also know that some samples are harmless and do their work well, while others may be deadly in their effects on a child suffering from diphtheria.

Respectfully yours,

JOHN R. ESPEY, M.D.

TRINIDAD, COL.

#### UNTOWARD EFFECT OF CODEINE.

To the Editor of THE MEDICAL NEWS,

SIR: A recent editorial in THE NEWS and a paper by the writer, "The Prevention of Morphinism," read before the American Medical Association, May 6, 1891, in which codeine is commended in lieu of morphine, make pertinent an added statement regarding it.

From proof at hand, there is reason to think that codeine will have a larger place in professional favor than it has had, and in order that its good repute may not be lessened, an incidental effect, several times observed during a large and satisfactory experience with it, may well be noted. This effect, it is quite proper to say, has been seen only in ex-morphine and ex-chloral habitués, but it is fair to presume that a like idiosyncrasy will, at times, be met with among those not addicted to either drug.

The first case was that of a druggist taking several grains of morphine daily, to whom I gave twelve grains of sulphate of codeine in one dose by the mouth, as a substitute for four grains of morphine. In less than half an hour he began to complain of great general itching; his face swelled until one eye was quite closed; his hands were puffed until he could not shut them, and his body—notably the back—became covered with large scarlet patches. There was no disturbance of brain, heart, or lungs. Most complaint was made of the itching. Prompt relief of this was brought by fluid extract of witch-hazel freely applied, and, with the redness, it soon subsided, but the swelling of the face and hands persisted for five days. There was no desquamation.

Since then I have seen four others—three, females—treated with doses from  $1\frac{1}{2}$  grains subcutaneously to 2 grains by the mouth, with the same, though much milder result. As in the first case, the itching was most complained of, and a peculiar feature of this was that it began in the head. There was no redness. The man's face was somewhat swollen. In all, the hamamelis worked well.

Lewin, in his *Incidental Effects of Drugs*, makes no mention of codeine, but cites a striking case of similar result from morphine in a man: "The eyelids were swollen, the whole face edematous and red, and wheal-like prominences appeared on the hands and other parts of the body."

Codeine possessing one-third of the power of morphine, it usually need not be given in doses larger than

from  $\frac{1}{2}$  to 1 grain subcutaneously, or double that by mouth, so that, except in very impressible patients, effects such as I have noted are not to be expected.

It need only be added, that care is called for in these cases not to give too large doses.

J. B. MATTISON, M.D.

BROOKLYN, N. Y.

#### NEW YORK.

##### *Castration as a Substitute for Capital Punishment.*

AT the last regular meeting of the New York Society of Medical Jurisprudence, held at the Academy of Medicine on Monday evening, March 14th, Gen. William A. Hammond, M.D., of Washington, read a paper entitled "A New Substitute for Capital Punishment and Means for Preventing the Propagation of Criminals."

Dr. Hammond began by stating that the primary object of all punishment for crime is the protection of society. Punishment should be of such a character as to act as a deterrent to crime to the utmost extent. Statistics, as well as the experience of all ages, show that the fear of the punishment of death has never prevented man from injuring society. Imprisonment for life has proven even less of a deterrent than death. This last form of punishment is not so terrifying to the criminal; there is always the hope of a chance to escape or of a pardon. The objects to be accomplished by punishment of crime are threefold: First, it should act as an example to others. Second, by placing the perpetrator in such a position that further infringement of the laws will be impossible. Third, by inflicting such an amount of mental and bodily suffering upon him that he will experience a lively sense of his crime; and hence, when he has incurred that punishment, he will be less prone than before to repeat his offence.

It is clear that to accomplish all the objects for which punishment is intended, neither death nor life-imprisonment are satisfactory, and some other means must be sought for. This method, Dr. Hammond stated, we have in a punishment which even in our own time and in this country has been occasionally employed for certain crimes—namely, castration. From a very early period castration was inflicted for adultery and rape. It has been in vogue in certain European countries, and not many years ago several negroes in Missouri were punished in this way for committing rape upon a white girl. The speaker said he would only refer to castration as a punishment for murder, and that his object was simply to show that this form of punishment would prove more deterrent than capital punishment or imprisonment for life; that it would entirely remove the man from the criminal classes, and that it would prevent the propagation of criminals.

1. Castration as a deterrent to crime. A man places greater value on his generative powers than on his life. As a French writer has said, "the dignity of a man resides in his testicles." When they are removed there is a marked change in the man. He cannot open his mouth without exposing his condition. The facial expression becomes altered. The man becomes cowardly and effeminate. It leaves a stain upon him worse than that

placed upon Cain. Dr. Hammond stated that the three negroes who were castrated in Missouri uniformly expressed a preference for capital punishment. He has several times put the question to criminals under sentence of death, and they all said they would rather hang than be deprived of their testicles. Juries that now hesitate about inflicting capital punishment would be less squeamish about castration. It would be a continuous punishment. It is not the intenseness of pain that has its greatest effect, but its continuance.

2. Castration would have the effect of making the criminal of some use to society. A dead man is of no use to society, and a man in prison is almost as bad. There are many occupations that would be open to him; he could occupy any position in which boldness or originality are not essential. Possibly he might make a good clergyman. He would not make a soldier, or a sailor, or a policeman, but he could edit a mild newspaper or make an efficient member of the legislative body. The value of eunuchs as singers has long been known. They would make excellent dry-nurses and safe type-writers.

3. Castration is probably the most powerful agent we have that will so alter the physical characteristics of a man as to remove him from the criminal classes. We can learn a great deal of the effects of the operation by performing it upon the lower animals. After it is done the fierce ram becomes mild and the cat ceases his nightly raids. So far as the human species is concerned, our observation is largely limited to the Orient, to those who have suffered from wounds or disease of the organs, and to those upon whom the operation has been performed for punishment. The universal testimony of persons who have travelled in Eastern countries is that the operation takes away all the dangerous elements that are present in the person; they become mild and obedient; they delight in the care of young children. It is true, however, that it causes a degradation of the moral as well as the physical qualities.

Dr. Hammond said that ten cases of castration have come under his notice. Three were the negroes who were punished in that manner for rape; two had lost their testicles as the result of disease; one had them removed as a possible cure for epilepsy; one had mutilated himself during an attack of delirium tremens, and three had been shot in battle. All these men were materially changed, and, what is more remarkable, all of them who were in the habit of taking alcoholic liquors lost their appetite for it. Castration probably produces a profound change in the brain-structure. As a reformatory agent, it stands unequalled by any other radical act we have.

4. As a means of preventing the propagation of criminals, it is as sure as death itself. If this form of punishment had been adopted a few hundred years ago, many thousand acts of crime would not have been committed. It is less cruel than capital punishment, more efficacious than imprisonment for life.

The scope of this paper has been restricted to the male sex. Women have become so accustomed to removal of the ovaries, and these organs are so much less essential to womanhood than the testicles are to manhood, that it might be necessary to substitute imprisonment for life in their case. Female murderers, however,

are much less common than male, so that the matter is not of great importance.

Dr. Hammond concluded his paper by stating that he did not expect to see this measure adopted during his lifetime, or during that of any of his hearers. It is so radically different from the method that modern society has seen fit to establish that its adoption will take a long time. It took thousands of years to abolish torture and make other changes in the laws, and he felt sure that the method of dealing with criminals he had advocated in his paper would be more humane and efficacious than the one now employed.

In the discussion that followed the reading of Dr. Hammond's paper, Dr. Landon Carter Gray stated that the suggestion was so novel that he was rather taken aback. Any method that would prevent the propagation of the criminal class is certainly worthy of attention. The point he wished to criticise in Dr. Hammond's paper was that it had not been shown conclusively that castrated males will not commit acts of violence. It is reported that many crimes are committed in the harems in the East; what part the eunuchs played in these he did not know. In females ovariectomy has been done on an exceedingly liberal scale in late years, and it does not seem to eliminate their sexual characteristics.

#### NEW ORLEANS.

*To the Editor of THE MEDICAL NEWS,*

SIR: The Louisiana State Medical Society will meet in this city on the 26th of April. Until this year there did not seem to be much interest in the meetings, but this one will probably have a large attendance, as several questions of importance will come up. The most important will be the bill to regulate the practice of medicine in Louisiana. This bill is very similar to the one that was presented four years ago, but was then defeated. Some of the items of the proposed bill are as follows:

"That after the passage of this Act any person before entering upon the practice of medicine, in any of its branches, except dentistry, shall present to the Board of Medical Examiners a diploma from some medical college in good standing, and he shall present himself before the Board for examination upon the following branches, viz.: anatomy, physiology, chemistry, and the general principles of medicine and surgery, but without reference to any sectarian school or special dogma or doctrine.

"That immediately upon the passage of this Act, the Governor shall appoint six graduated physicians, one from each congressional district of the State, as a State Board of Medical Examiners, whose duty it shall be to examine into the qualifications of all applicants for permits to practise medicine in any of its departments, in accordance with the foregoing sections of this Act: Provided, that at all times not less than one-half the members shall be appointed from a list of thrice as many names furnished to the Governor by the State Medical Society.

"That any itinerant vender of any drug, nostrum, ointment, or application of any kind, intended for the treatment of disease or injury, or who may, by writing, print, or other methods, profess to cure or treat disease or de-

formity by any drug, nostrum, manipulation, or other expedient in this State, shall, if found guilty, be fined in any sum not less than twenty-five (\$25) dollars and not exceeding one hundred (\$100) dollars for each offence, to be recovered in an action of debt, before any court of competent jurisdiction, or shall be imprisoned for a term of not less than ten (10) days or more than thirty (30) days, or be both fined and imprisoned.

"That any person shall be regarded as practising medicine, in any of its departments, within the meaning of this Act, who shall append the letters M.D. or M.B. to his or her name, or repeatedly prescribe or direct, for the use of any person or persons, any drug or medicine or other agency for the treatment, cure, or relief of any bodily injury, infirmity, or disease. This Act shall not apply to dentists or midwives in the legitimate practice of these branches, nor to farmers and planters when exclusively practising, without compensation, on their employes in emergencies."

The new out-door clinic buildings of the Charity Hospital will be opened on the 5th of April. Heretofore the out-door clinic, amounting to more than 14,000 cases annually, has been treated in the wards.

One frequently hears of an effort to do away with the so-called "society practice" here, but it is not probable that it will be done, as there are many men here who seem to care but little for their own interests or those of the profession. This society system is in many ways a peculiar one. A party of men form a society, the dues of which are small. They engage a physician to do their work for an absurdly small fee, in some cases not amounting to more than a dollar a year for a member and his family. The member has a right to call the physician as often as he wishes, and frequently calls him when it is unnecessary. Many of the profession are very much opposed to this system and have tried several times to stop it, but have not been successful. It is to be hoped that the next will be a successful effort. The people who belong to these societies are laborers, of whom many could easily pay a fair fee. W.

## NEWS ITEMS.

*In Memory of Dr. D. Hayes Agnew.*—At a regular meeting of the Philadelphia County Medical Society a minute relative to the death of Dr. D. Hayes Agnew was adopted, and a committee of ten members was appointed to represent the Society at the funeral.

At a special meeting of the College of Physicians of Philadelphia, called for the purpose of taking action in connection with the death of Dr. D. Hayes Agnew, eulogistic remarks were made by the president, S. Weir Mitchell, by John Ashhurst, Jr., and by W. W. Keen. A minute offered by Dr. Charles J. Stillé was adopted. It was agreed that the College should attend the funeral in a body. The president was authorized to appoint a Fellow to prepare a memoir of Dr. Agnew.

The funeral of the distinguished surgeon, teacher, and author was held amid impressive ceremonies on Friday, March 25th.

The Medical Society of the State of Pennsylvania will hold its forty-second annual meeting at Harrisburg May 17,

18, 19, and 20, 1892. Dr. J. H. Musser, of Philadelphia, will deliver the Address on the Practice of Medicine; Dr. T. D. Davis, of Pittsburg, the Address on Surgery; Dr. H. G. McCormick, of Williamsport, the Address on Obstetrics; Dr. J. W. Phillips, of Clifton, the Address on Mental Disorders; Dr. G. R. Rohrer, of Lancaster, the Address on Otology; Dr. A. A. Woods, of Erie, the Address on Hygiene.

Dr. H. A. Hare, of Philadelphia, chairman, will present the Report of the Committee on Pharmacy; Dr. J. A. Lippincott, of Pittsburg, chairman, the Report of the Committee on Contagious Ophthalmia; Dr. W. Murray Weidman, of Reading, chairman, the Report of the Committee on the Rush Monument Fund.

*Addresses of Ophthalmologists Desired.*—The Editor of THE MEDICAL NEWS wishes to obtain the addresses of all ophthalmic surgeons or physicians especially interested in ophthalmology residing in the United States and English-speaking countries of this continent. Please use postal cards addressed to this office, the word OPHTHALMOLOGIST accompanying the address.

*Kitasato*, who for six years has been pursuing studies at the Hygienic Institute, at Berlin, has been called to Tokio to assume the direction of a bacteriologic-hygienic laboratory soon to be opened.

### BOOKS AND PAMPHLETS RECEIVED.

Abdominal and Uterine Tolerance in Pregnant Women. By Robert P. Harris, A.M., M.D. Pamphlet. Philadelphia: Dornan, 1892.

Nasal Papillomata. By Jonathan Wright, M.D. Reprint, 1892.

Subglottic Neoplasms. By Jonathan Wright, M.D. Reprint, 1891.

Lectures on Surgical Pathology. (The Mütter Lectures for 1891-92.) By Roswell Park, A.M., M.D. Reprint, 1892.

A Human Embryo, Twenty-six Days Old. By F. Mall, M.D. Reprint, 1891.

Are Inebriates Curable? By T. D. Crothers, M.D. Reprint, 1892.

Influenza: Its History, Etiology, Pathology, etc. By Charles H. Merz, M.D. Pamphlet. Sandusky, Ohio: L. J. Beecher & Co., 1892.

Twenty-first Annual Report of the Managers of the Buffalo State Hospital for the Year 1891. Albany: James B. Lyon, State Printer, 1892.

Bacteriological Diagnosis: Tabular Aids for Use in Practical Work. By James Eisenberg, Ph.D., M.D. Translated and Augmented, with the Permission of the Author, from the Second German Edition, by Norval H. Pierce, M.D. Philadelphia and London: The F. A. Davis Company, 1892.

Contributions to the Physiology and Pathology of the Nervous System. From the Private Laboratory of Isaac Ott, M.D., of Easton, Pa. Part XI. Reprint, 1891.

Supracotyloid Dislocation. By John Ridlon, M.D. Reprint, 1891.

Neuroma. By Edmund J. A. Rogers, M.D. Reprint, 1892.

Aphasia and Other Affections of Speech, etc. By Charles K. Mills, M.D. Reprint, 1891.

Laparotomy under Cocaine. By Emory Lanphear, M.D., Ph.D. Reprint, 1892.

Announcement of the Charleston Medical School, 1892.

Text-book of Nursing. Compiled by Clara S. Weeks-Shaw. Second Edition, Revised and Enlarged, with Illustrations. New York: D. Appleton & Co., 1892.